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Original Communications

REPORT OF A CASE OF DIABETES MELLITUS SUCCESSFULLY TREATED BY NITRO-GLYCERINE.

By R. A. KENNEDY, M.D.,

Emeritus Professor of Obstetrics and Diseases of Women and Children, Faculty of Medicine, University of Bishop's College.

(Read before the Medico-Chirurgical Society.)

MR. PRESIDENT AND GENTLEMEN. Any remedy which can arrest the course or hold out a prospect of cure of so intractable and generally fatal disease as diabetes must be of great interest to us all.

I therefore present nitro-glycerine as one such remedy which so far as I know has not hitherto been used for this complaint. That it had a decided-beneficial action is well shown by this report, the value of which is enhanced by the complete analysis of the urine, made daily and extending over a period of ten months. I am indebted to Prof. Bemrose, F. C. S., for the interest and careful attention he gave in determining these results whereby an accurate record was obtained. The literature of diabetes leaves us uncertain as to the pathological conditions which induce the disease. Irritation of the floor of the fourth ventricle of the brain causes glycosuria by inducing a paralysis of the vaso-motor nerves of the liver. The pneumogastric centre being deranged, and the disturbance of the normal conditions of the nerve affecting the vaso-motor nerve through its intimate connection with the cervical ganglion of the sympathetic. Such experiments favor the idea of disease of the

brain as the cause; but in most instances such is not always found to be the case. In some definite pathological condition is generally observed, while in others the disease is apparently local, affecting either the liver or pancreas. From these facts, and from the comparatively few cases which have come under my observation, I have been led to the belief that we should more carefully define our cases into those of centric and those of local origin. As a rule when sugar is discovered in the urine we place our patients on the recognised diabetic remedies, without regard to the probable seat of the disease. Remedies which effect the brain centre may benefit disease in them, but can they be as effectual or of any benefit if the disease is in the liver or pancreas. Should we, therefore, not vary our treatment accordingly? In the greater number of cases treated by me local conditions chiefly were involved. The cases of cases occurred in elderly people, generally very stout, and good feeders. In these cases dyspeptic symptoms are prominent, as the excess of hydro-carbonaceous food taken into their stomachs increases the work of digestion. Many such persons I think live out a long number of years without serious illness, and unless accident discovers sugar in the urine there is nothing to indicate their diabetic condition except it may be an excess of urine. Such patients I have been unable to place upon any diabetic diet, as they will not adhere to it for any time. One patient, a woman, to my knowledge has had sugar in the urine for over eight years, is very stout and eats largely. She has attacks of indigestion, and at times inter- genital pruritis, otherwise there is no change

the worse as the years pass by. Of a different class is the case I report, centric in its origin and more often met with in young persons, which no doubt accounts for its fatality at early periods of life.

Mrs. B., age 28 years. Height 5 ft. 6 in., weight 123 lbs., of spare habit of body. Family history good, both parents alive and well, and no discoverable, hereditary tendency. Came under observation and treatment October, 1886.

Previous to commencement of present disease had always enjoyed perfect health, and accustomed to long daily walks. Had a miscarriage several years ago, with this exception menstruation has always been normal in every respect. In July 1886, first noticed a slight dimness of vision, heaviness of the legs, and was easily tired, especially on walking up-hill. The continuance of this weakness induced her to try change of air, and in September, while at Providence, Rhode Island, was troubled with intense thirst, which was ascribed to fatigue of travelling, and to the hot weather. Returning to Montreal in October I was consulted; there was great bodily weakness, excessive thirst, pains increased in severity, and her eyesight much worse, a colored ring being noticed when looking at a distant light. As this latter symptom indicated a possible glaucoma, her eyes were examined by an oculist without anything being discoverable. At the same time the urine was examined with the result of finding a large amount of sugar. She was placed upon as strict a diabetic diet as possible, which, with exceptions noted, has been followed throughout, any variations being always followed by a rise in the sugar, well shown on the record Dec. 25th. The desire for sweetening was obviated by the use of saccharine, which answered the purpose, but otherwise had no apparent physiological action. The largest amount of sugar excreted in one day was on Oct. 17th, 1886, amounting to 8.75 oz. The total sugar excreted in 10 months was 50 lb. 10 oz. With the analysis will be found the treatment and food. The patient at this date, January, 1888, feels perfectly well and strong.

Although some of the sugar percentages and Sp. Gr. agree very well, as for example:

Oct. 23	s.g.	1.0288	Urine	90 ozs.	Sugar	4.5
" 24	s.g.	1.0300	"	90 ozs.	"	4.5
Nov. 11	s.g.	1.03	"	70 ozs.	"	2.916
" 13	s.g.	1.028	"	70 ozs.	"	2.916
" 21	s.g.	1.027	"	110 ozs.	"	6.105

Dec. 15	s.g.	1.027	"	100 ozs.	"	5.555
" 19	s.g.	1.031	"	88 ozs.	"	4.884
" 18	s.g.	1.031	"	90 ozs.	"	4.995
" 26	s.g.	1.031	"	144 ozs.	"	7.952

Others are very wide apart, as for example:

Mch. 24	s.g.	1.035	Urine	60 ozs.	Sugar	2.28
" 27	s.g.	1.045	"	60 ozs.	"	2.28
Apl. 19	s.g.	1.032	"	50 ozs.	"	3.105

it was therefore thought worth while, the urine being again saccharine, to estimate the total solids and ash as well as the sugar and urea, and the following was worked out during the month of September, 6 days only being lost.

The sugar totals vary as much as before:

Sept. 29th	58 ozs.	Urine	s.g.	1.0377	Sugar	1.276
" 30th	58 ozs.	"	s.g.	1.0360	"	1.682

but on the 29th the ash is 0.52348 oz., on the 30th only 0.36223 oz., and the urea also is higher on the 29th.

If however the total solids and Sp. Grs. are compared with published tables of the Sp. Gr. of carbohydrate solutions:

2.5 %	starch sugar	= s.g.	1.0104
5.0 %	"	"	1.0208
7.5 %	"	"	1.0313
10.0 %	"	"	1.0424

The September work will be found fairly near:—

Sep. 4th	Total solids	8.4 %	s.g.	1.038
" 5th	"	10.5 %	s.g.	1.040
" 12th	"	7.0 %	s.g.	1.031
" 29th	"	7.81 %	s.g.	1.0377

It appears therefore that the Sp. G. is no sure indicator of the amount of sugar present; also up to 1.023 it will not determine its presence or absence since

July 16th	s.g.	1.021,	sugar,	0.562
" 24th	s.g.	1.024	"	0.000
" 25th	s.g.	1.023	"	0.000
Oct. 30th	s.g.	1.017	"	0.511

On October 31st, the s.g. was 1.021, and total sugar 1.345; the calculated percentage is 2.359 oz., and that found by Fehling is 2.36; total solids calculated as above from the s.g. is 1.85, leaving only 0.505 oz. for all other bodies; it is unfortunate that the direct estimation of solids, ash and urea was not suggested at that time.

As a rule, when the amount of drink taken is large the sugar is higher, although the volume of urine may be the same, e. g. :—

Feb. 2	Drink, 45 oz.,	Urine, 60 oz.,	Sugar, 2.73
" 4	" 62 oz.,	" 61 oz.,	" 3.385
and " 6	" 79 oz.,	" 80 oz.,	" 4.000
" 7	" 88 oz.,	" 80 oz.,	" 4.208

of course when the urine is increased much in quantity, the sugar is still higher:

Feb. 12	Drink, 82 oz.,	Urine, 100 oz.,	Sugar, 6.15
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RECORD FOR 24 HOURS ENDING 8 A.M.

Date.	Sp. Gr.	Drink taken.	Urine	Sugar for 24 hours.	Urea for 24 hours.	Aceto Acetic Reaction.	MEDICINE.	SYMPTOMS.
1886 Oct.	60 F.	oz.	oz.	oz.				
11	1.040	....	140	7.77	.....	.....	½ gr. Codeia t.d.	Very weak, thirst excessive.
12	1.042	....	140	7.77	.....	.....	"	"
13	1.07	....	120	6.00	.....	.....	"	Thirst less.
14	1.05	80	120	6.60	.....	.....	½ gr. "	"
15	1.029	100	80	5.00	.....	.....	"	"
16	1.028	120	100	7.14	.....	.....	"	"
17	1.03	100	140	8.75	.....	.....	¾ gr. "	"
18	1.025	100	120	5 nearly	.....	.....	"	"
19	1.028	100	120	6.0	.....	.....	"	"
20	1.029	100	120	6.31	.....	.....	1 gr. "	Very dull and desponding.
21	1.029	100	110	6.105	.....	.....	"	Dizzy; vomiting.
22	1.029	100	120	5.46	.....	.....	"	Vomiting increased, too
23	1.028	112	90	4.50	.....	.....	¾ gr. "	weak to stand.
24	1.030	80	90	4.50	.....	.....	"	Heavy night sweats
25	1.029	40	56	2.80	.....	.....	1 gr. "	Night sweats and chills.
26	1.0242	120	80	2.79	.....	.....	"	"
27	1.025	40	45	1.251	.....	.....	"	"
28	1.0305	85	80	3.04	.....	.....	"	"
29	1.0246	96	90	3.87	.....	.....	1¼ gr. "	"
30	1.017	67	46	0.511	.....	.....	"	"
31	1.021	46	57	1.345	.....	.....	"	Vomiting till very weak.
				103.112				

1886 Nov.						Faint reaction	Tr. Iron and Chloric ether.	
1	1.0175	70	40	0.168	.....	.....	No codeia.	Pain right side, bad night.
2	1.0182	60	30	0.3	.....	.....	"	Side worse.
3	1.019	110	47	1.175	.....	V. strong	"	"
4	1.024	100	80	4.0	.....	None.	"	Heavy night sweats, limbs cold
5	1.0265	90	100	5.0	.....	"	Iron & ether & ¾ gr. Codeia at night	"
6	1.0220	98	90	2.493	.....	"	" and 1 gr. "	Side better.
7	1.021	92	95	4.7	.....	"	" " " "	Pains over back & shoulders
8	1.038	118	104	3.848	1.304	"	Same with podoph and nux pill.	"
9	1.036	88	105	3.496	1.7 n'y	"	"	Bad night, cold sweating.
10	1.0265	66	60	1.5426	1.1	"	Iron & Strych with Ergot, no Codeia: 20 grs. Na. Br. at night.	"
11	1.03	80	70	2.916	1.132	"	"	"
12	1.027	95	90	3.6	1.455	"	"	"
13	1.028	95	70	2.916	1.283	"	"	"
14	1.03	84	100	4.762	1.752	"	" + 1 gr. Codeia	Diet strict.
15	1.028	75	85	3.269	1.58	"	"	"
16	1.03	82	81	3.685	1.482	"	"	"
17	1.0275	72	90	3.6	1.553	"	Iron and Strych. with Pil. Opii.	"
18	1.026	80	102	4.999	1.43	"	" with Pil. Codeia.	Health C's crude gluten
19	1.025	67	68	2.264	1.563	"	"	Pain in back.
20	1.025	72	75	2.884	1.59	"	"	Worse.
21	1.027	80	110	6.105	1.374	"	1 gr. Codeia with 20 grs. Na. Br. if	Very bad.
22	1.029	100	112	5.6	1.24	"	sleepless.	"
23	1.025	86	76	2.5	1.671	"	"	Better.
24	1.025	63	100	3.846	1.4	"	"	"
25	1.028	60	94	4.277	1.51	"	"	No pain, very tired at night
26	1.026	54	100	4.166	1.51	"	"	"
27	1.0315	86	116	4.55	1.348	"	"	"
28	1.028	75	92	3.538	1.635	"	"	"
29	1.028	78	88	2.933	1.76	"	"	40 oz. milk; no gluten.
30	1.0275	97	100	5.00	1.832	"	"	"
				104.1326				Legs very heavy.

Date.	Sp. Gr.	Drink taken.	Urine	Sugar for 24 hours.	Urea for 24 hours.	Aceto Acetic Reaction.	MEDICINE	SYMPTOMS.
		oz.	oz.	oz.				
1886 Dec.	60 F.							
1	I.028	95	100	3.846	I.752	None.	1 m of 1% nitroglycerine and 1 gr. co deia.	
2	I.0278	60	70	2.692	I.423	"	Gluten, no milk.	Cramp during night.
3	I.024	43	46	0.46	I.288	"	"	"
4	I.035	50	53	0.60	I.171	"	"	"
5	I.0195	50	61	1.053	0.966	Strong.	"	No sleep and pain inside and back.
6	I.023	44	56	1.166	0.9367	"	"	"
7	I.0245	57	60	1.156	I.212	"	"	"
8	I.0195	58	60	0.577	I.003	Still m're	" with 15 grs. am. cl."	Pain worse.
9	I.028	54	40	1.000	0.862	"	"	"
10	I.026	64	63	2.423	I.053	"	" with 20grs. Na.Br.	"
11	I.027	80	90	2.314	I.212	Strong.	"	Pain less, cold perspiration.
12	I.0288	69	81	3.374	I.288	Faint.	"	"
13	I.029	53	70	2.916	0.528	"	"	Pain gone.
14	I.029	85	90	3.749	I.212	None.	"	"
15	I.027	70	100	5.55	0.970	"	"	"
16	I.026	80	108	4.914	I.10	"	"	Sleep good.
17	I.0285	46	58	3.219	0.86	Faint.	1m of 1% nitro-glycer. t.d. & a little milk	
18	I.031	60	90	4.995	I.115	"	1m and two half minims	Pain in back again.
19	I.031	66	88	4.884	0.973	"	" + iron & chloric ether	Pain worse.
20	I.035	50	56	2.800	0.906	"	"	"
21	I.032	56	80	4.208	I.167	"	"	"
22	I.028	39	64	1.645	I.104	Stronger.	"	Pain better.
23	I.033	50	52	2.6	0.803	"	3 x 1/2 m doses nitro-glycer.	No pain; weak.
24	I.032	54	70	3.5	I.094	"	"	"
25	I.031	40	62	2.384	0.819	"	2x 1/2 m doses & 1m dose. Biscuit & ale	"
26	I.031	90	144	7.992	I.164	None.	"	"
27	I.031	60	82	4.10	0.973	"	" Diet strict.	"
28	I.033	40	56	2.667	0.996	Faint.	"	"
29	I.034	58	72	3.6	I.307	"	"	"
30	I.0335	43	60	2.730	0.970	Stronger.	"	"
31	I.032	60	80	3.809	I.161	"	"	Feels stronger.
				92.926				

Note rise of sugar on 26th after starch food and ale.

1887 Jan.								
1	I.035	70	80	4.00	I.208	Faint.	No medicine.	Diet not strict.
2	I.033	25	30	0.872	0.728	None.	"	"
3	I.032	75	102	2.623	I.100	"	"	"
4	I.035	56	82	4.313	I.061	Faint.	"	Cramp at night.
5	I.034	56	80	4.44	I.078	"	2m nitro-glycerine p. day	Acid vomiting all night.
6	I.038	54	50	2.50	0.943	"	"	Diet strict.
7	I.033	43	52	2.261	0.953	Strong.	"	Legs heavy and tired.
8	I.031	62	70	3.50	0.800	Faint.	"	"
9	I.032	64	94	4.997	0.861	None.	"	"
10	I.033	62	85	4.25	0.908	"	"	"
11	I.032	68	90	4.995	I.164	"	"	Diet not strict.
12	I.035	38	42	1.534	0.974	"	"	"
13	I.0315	36	42	1.164	0.906	Faint.	"	"
14	I.032	42	54	1.690	I.193	None.	"	" cold sweat.
15	I.0315	48	78	3.549	I.323	"	"	"
16	I.035	50	70	3.885	I.132	"	"	"
17	I.036	48	60	3.996	0.936	"	"	"
18	I.034	31	66	3.472	I.067	Faint.	"	Gluten and strict diet
19	I.036	46	60	3.528	0.792	"	"	"
20	I.035	74	75	3.085	I.011	Strong.	"	Better nights.
21	I.033	56	60	3.156	0.905	"	"	"
22	I.033	64	76	3.8	I.515	Faint.	"	"
23	I.031	98	101	5.05	I.307	None.	"	"
24	I.032	36	47	2.238	0.766	"	None.	"
25	I.0355	54	66	3.880	I.067	Faint.	"	"
26	I.0315	62	66	2.749	I.103	"	"	"
27	I.0328	54	60	2.857	I.03	"	"	"
28	I.0332	64	68	3.40	I.45	"	A 1m dose	"
29	I.035	49	65	3.6075	I.052	"	Two 1m doses.	Vision slightly affected.
30	I.037	51	60	2.857	I.07	"	"	"
31	I.0325	73	76	3.8	I.25	"	"	"
				102.082				

Date.	Sp. Gr.	Drink taken.	Urine	Sugar for 24 hours.	Urea for 24 hours.	Aceto Acetic Reaction.	MEDICINE.	SYMPTOMS.
1887 Feb.	60 F.	oz.	oz.					
1	I.035	48	50	2.775	0.892	None.	Iron and strychnia. Gluten Food.	Eyes better and feels well.
2	I.0335	45	60	2.73	1.132	"	" " "	" "
3	I.035	55	80	4.44	1.121	"	" " "	" "
4	I.05	62	61	3.385	1.185	"	" " "	" "
5	I.046	54	46	2.03	1.147	"	" " " 1 oz. br'd	" "
6	I.034	79	80	4.00	1.164	"	" " "	" "
7	I.031	88	80	4.208	1.037	"	" " " no bread	" "
8	I.034	111	120	6.312	1.166	"	" " "	" "
9	I.035	70	74	4.351	1.037	"	" " "	" "
10	I.0365	86	72	3.744	1.009	"	" " "	" "
11	I.033	74	86	4.032	1.159	"	" + 1m nitro-glyc. "	Very tired, legs heavy.
12	I.034	82	110	6.15	1.260	"	" " "	" "
13	I.036	76	81	3.302	1.157	"	" 3m " "	" "
14	I.035	118	132	6.204	0.818	"	" " "	" "
15	I.031	75	82	2.788	1.105	"	" " "	" "
16	I.033	54	60	2.64	0.873	"	" " "	Better "
17	I.035	50	54	2.808	0.815	"	" " "	" "
18	I.034	56	60	2.640	0.911	"	" " "	" "
19	I.035	54	56	2.52	0.785	"	" " "	" "
20	I.032	83	98	4.512	1.135	"	10 grs. Jumbol, 1m nitro. gl. "	Very heavy and dull.
21	I.035	56	61	2.562	0.75	"	15 grs. " only "	" "
22	I.035	62	78	3.276	0.967	"	30 grs. " " "	Which got worse to end of month.
23	I.033	70	91	4.50	1.164	"	" " "	" "
24	I.034	46	58	2.262	0.770	"	" " "	" "
25	I.033	44	63	2.205	0.815	"	" " "	" "
26	I.032	64	81	3.402	1.571	"	" " "	" "
27	I.0335	50	74	3.108	0.958	"	" " "	" "
28	I.0337	62	74	3.996	0.838	"	" " "	Eyes weak again.
				100.945				

Sugar increased again by small quantity of bread taken on 5th and 6th. Gluten food alone become very disagreeable, and nothing suitable to be obtained; almonds and nuts disliked and therefore indigestible. The Jumbol was found to be inert as the seeds were old and worm-eaten.

Date.	Sp. Gr.	Drink taken.	Urine	Sugar for 24 hours.	Urea for 24 hours.	Aceto Acetic Reaction.	MEDICINE.	SYMPTOMS.
1887 Mch								
1	I.0336	76	101	4.494	0.813	None.	1m of 1% Nitrog. Gluten Food all the	Pains in legs.
2	I.031	40	52	1.456	1.29	"	1m Ng. and 2 doses Iron. month.	" "
3	I.034	50	48	1.44	1.09	"	2m " " 1 " "	Better.
4	I.0336	55	67	2.412	1.41	"	1m " " 2 " "	" "
5	I.031	66	73	2.482	1.77	"	" " " 1 " "	" "
6	I.033	65	60	2.10	1.23	"	2 " " 1 " "	" "
7	I.0335	60	70	2.95	1.358	"	" " "	Still improving.
8	I.031	51	50	2.10	1.05	"	" " "	" "
9	I.0342	45	48	1.68	1.081	"	2 and 1 dose Iron and Strych.	" "
10	I.032	63	78	3.465	1.412	"	" " "	" "
11	I.0315	45	60	2.10	1.261	"	" " "	Eyes better and feels quite well.
12	I.034	58	63	2.772	1.155	Strong.	" " "	" "
13	I.0355	60	76	3.496	1.27	None.	" " "	" "
14	I.037	55	60	3.038	1.053	Strong.	" " "	" "
15	I.0305	53	51	2.397	1.004	"	" " "	" "
16	I.035	53	68	2.970	1.1	Faint.	" " "	" "
17	I.0349	62	57	2.494	1.032	Strong.	" " "	" "
18	I.0338	56	60	2.46	1.07	"	No Ng., 1 dose Iron and Strych.	" "
19	I.032	62	76	3.306	1.213	Alm. n'ne	" " "	" "
20	I.036	48	56	2.295	1.072	"	1m Ng. only.	" "
21	I.037	54	56	2.688	1.146	"	" " "	" "
22	I.0315	71	87	3.4375	0.586	None.	" " "	" "
23	I.035	42	45	1.665	0.946	"	" " "	" "
24	I.035	54	60	2.28	1.229	"	" " "	" "
25	I.035	57	68	1.768	1.32	"	" " "	" "
26	I.0352	58	70	3.15	1.19	"	" " "	Legs heavy.
27	I.045	65	60	2.28	1.067	Strong.	" " "	" "
28	I.0352	52	48	1.776	1.00	"	" and 1 dose Iron and Strych.	Cramps at night.
29	I.034	70	71	2.982	1.224	"	" " "	" "
30	I.028	56	60	1.62	1.02	"	" " "	Cramps gone, feels stronger.
31	I.0317	64	62	2.048	1.07	"	" " "	" "

Date.	Sp. Gr.	Drink taken.	Urine	Sugar for 24 hours.	Urea for 24 hours.	Aceto Acetic Reaction.	MEDICINE.	SYMPTOMS.
1887 April	60 F.	oz.	oz.	oz.				
1	I.036	67	66	3.036	1.21	Faint.	1m Nitro-gl. and 1 dose Iron and Strych.	Cramp.
2	I.0335	74	70	2.94	1.32	Strong.	Gluten Food all month.	"
3	I.035	80	72	3.312	1.35	"	"	Better.
4	I.035	80	78	3.424	1.33	None.	"	"
5	I.034	55	50	2.05	1.00	"	No medicine.	"
6	I.0353	48	46	1.794	0.915	Faint.	"	"
7	I.0341	64	68	2.584	1.33	"	"	Cramp again.
8	I.033	70	72	2.736	1.27	"	"	"
9	I.035	60	58	2.203	1.03	"	"	"
10	I.034	72	68	2.176	1.10	"	Continued as on 1st.	"
11	I.035	52	48	1.824	1.01	"	"	"
12	I.035	60	56	2.632	1.12	Strong.	"	Better.
13	I.037	43	41	1.886	0.84	"	"	"
14	I.033	59	58	2.262	1.00	"	No medicine.	"
15	I.035	62	60	3.35	1.14	"	"	"
16	I.032	44	42	2.35	1.02	"	"	"
17	I.032	76	74	3.99	1.01	"	"	"
18	I.032	54	52	2.75	0.953	"	½m. Nitro-glycerine.	"
19	I.032	62	60	3.105	1.26	"	"	"
20	I.031	69	74	3.815	1.21	"	"	"
21	I.031	80	63	3.257	1.43	V. strong	" and 1 dose Iron & Strych.	"
22	I.029	77	76	3.382	1.40	"	"	"
23	I.027	70	74	3.663	1.07	"	"	Well to end of month.
24	I.027	77	74	2.826	1.10	"	"	"
25	I.028	72	75	3.7125	1.06	"	"	"
26	I.030	70	62	2.79	1.153	"	"	"
27	I.030	56	52	2.691	1.12	"	"	"
28	I.034	56	58	3.00	1.125	"	"	"
29	I.033	70	66	4.158	1.121	"	5 grs. Jumbul.	"
30	I.029	60	57	2.565	1.002	"	15 grs. "	"
				85.2735				
1887 May								
1	I.029	65	70	3.06	1.43	Strong.	15 grs. Jumbul. Gluten Food all the month.	Feels well.
2	I.034	49	40	2.25	0.835	"	"	"
3	I.034	63	58	3.523	1.22	"	"	"
4	I.034	59	50	3.15	0.943	None.	"	"
5	I.033	70	57	3.69	1.26	"	"	"
6	I.034	55	57	3.84	1.11	"	"	"
7	I.033	65	59	3.18	1.04	"	"	"
8	I.032	58	57	2.95	1.07	"	"	"
9	I.032	53	58	3.26	1.56	"	"	"
10	I.031	53	30	0.945	0.566	"	No medicine.	Onions.
11	I.028	44	40	1.35	0.755	"	"	"
12	I.028	40	38	1.06	1.01	"	"	"
13	I.025	35	39	1.05	1.00	"	"	Apples and oranges.
14	I.025	44	52	1.22	1.001	"	"	"
15	I.027	65	70	2.815	1.24	"	"	"
16	I.031	47	52	2.34	1.121	"	"	"
17	I.032	55	54	2.187	1.05	"	"	"
18	I.030	57	60	3.375	1.03	"	2 doses Jumbul (15 grs. ea.)	"
19	I.032	59	64	4.212	1.072	"	"	"
20	I.030	39	42	1.795	0.9	"	3	"
21	I.031	56	60	3.105	1.07	"	"	One orange.
22	I.031	72	66	3.564	1.08	"	No medicine.	"
23	I.030	54	48	1.809	0.84	"	3 doses Jumbul.	"
24	I.032	71	54	3.24		"	"	"
25	I.032	76	56	2.898		"	"	"
26	I.032	60	42	1.2285		"	"	"
27	I.030	60	44	1.482		"	"	"
28	I.025	52	50	1.52		"	"	"
29	I.027	56	68	2.601		"	No medicine.	"
30	I.027	50	64	2.304		"	"	"
31	I.025	50	50	1.4625		"	" about 1 oz. of bread.	"
				76.790				

Date.	Sp. Gr.	Drink taken.	Urine	Sugar for 24 hours.	Urea for 24 hours.	Aceto Acetic Reaction.	MEDICINE.	SYMPTOMS.
1887 June	60 F.	oz.	oz.	oz.				
1	I.030	94	90	6.277	.....	.....	No medicine.	Ice cream a little. Well.
2	I.029	61	60	2.835	.....	.....		"
3	I.031	46	36	1.458	.....	.....	Saccharine food and fruit.	"
4	I.033	40	56	3.15	.....	.....		"
5	I.033	40	46	2.898	.....	.....		"
6	I.033	42	39	2.34	0.69	None.		"
7	I.030	46	44	1.287	0.55	"		"
8	I.028	42	44	2.178	0.57	"		"
9	I.029	37	35	1.338	0.7	"		"
10	I.029	44	34	0.9945	0.7	"		"
11	I.030	37	38	1.196	0.74	"		"
12	I.034	36	42	0.945	0.71	"		"
13	I.034	56	54	3.645	0.84	"		"
14	I.032	46	42	1.512	1.02	"		"
15	I.027	48	50	1.687	1.45	"		"
16	I.031	49	42	1.512	1.2	"		"
17	I.030	48	40	1.35	1.01	"		"
18	I.0255	52	52	1.17	1.32	"		"
19	I.026	42	38	1.026	1.044	"		"
20	I.025	36	42	1.228	1.177	V. faint.		"
21	I.028	29	33	0.795	1.069	None.		"
22	I.027	42	40	1.17	1.207	"		"
23	I.024	44	42	1.174	1.34	"		"
24	I.025	42	46	0.824	1.19	"		"
25	I.025	46	40	0.45	1.00	"		"
26	.....	.....	.....	.....	.....	"		"
27	.....	35	43	0.262	.....	"		"
28	.....	.....	50	2.475	.....	"	Fruit.	"
29	.....	46	42	2.36	.....	"	"	Pain and bad cramps.
30	I.031	40	30	0.607	.....	"	"	"
				50.1085	Not continued further			

Sugar increases 4.8 oz. after 1 oz. bread taken on the last day of May.

1887 July								
1	I.032	40	36	0.648	.....	.....	Strict diet.	Bad cramps at night.
2	I.028	36	30	0.4725	.....	.....	Iron and Stuychmine.	"
3	I.031	26	30	0.4725	.....	.....	"	"
4	I.027	40	38	1.111	.....	.....	"	"
5	I.032	44	42	1.4175	.....	.....	"	"
6	I.032	46	40	1.62	.....	.....	"	"
7	I.032	49	42	2.173	.....	.....	"	"
8	I.027	40	34	0.705	.....	.....	"	Better.
9	I.031	70	60	2.16	.....	.....	"	"
10	I.023	56	42	0.378	.....	.....	"	Cramp gone.
11	I.022	48	52	0.468	.....	.....	"	"
12	I.025	52	50	0.562	.....	.....	"	"
13	I.024	38	42	0.525	.....	.....	"	"
14	I.022	70	60	0.429	.....	.....	"	"
15	I.022	40	32	0.228	.....	.....	"	"
16	I.021	52	50	0.562	.....	.....	"	Fruit.
17	I.024	53	60	1.215	.....	.....	"	"
18	I.029	35	60	2.7	.....	.....	None.	"
19	I.023	15	40	0.63	.....	.....	Continued.	"
20	I.028	40	44	1.218	.....	.....	"	"
21	I.027	49	36	0.555	.....	.....	"	"
22	I.022	26	60	0.81	.....	.....	"	Cucumbers.
23	I.020	40	40	0	.....	.....	None.	"
24	I.023	39	34	0	.....	.....	"	"
25	I.023	40	36	0	.....	.....	"	"
26	I.020	42	36	0	.....	.....	"	"
27	I.022	40	32	0	.....	.....	"	"
				21.1195				

AN EVERY DAY CASE, TREATED BY ELECTRICITY.

By A. LAPHORN SMITH, B.A., M.D., M. R. C. S. Eng.,
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Mrs. P., æt. 50, 26 years married, had 8 boys, 8 girls, and 4 miscarriages; came under my care for her womb, two years ago. I confined her, however, of her 16th living child 6 years ago, since which she has not had any more. She was attended 12 years ago by the late Dr. Schmidt for complete procidentia, her womb at that time hanging between her legs, and sticking to her clothes. He gave her some internal treatment, from which she derived great benefit. After her fifteenth confinement, however, her womb came down as bad as ever, and she was treated by Dr. Thompson, who after a month succeeded in healing the ulcers and getting the womb to remain inside the vulva, more or less, for it always came down after exertion, about one or two inches.

When she came to me in Feb., '86, I took down the following notes: Previous history; always healthy before marriage and since, except that she menstruated every two or three weeks, and even during pregnancy, until within three months of delivery.

Present condition: bilateral laceration of the cervix, with cystic cervical glands; lacerated perineum almost to the sphincter and procidentia of the uterus about two inches; and the sound enters a little more than 4 inches.

Treatment during the next two months. As she declined any operative measures whatever, I applied iodized phenol to the cervical canal and glycerine of tannin tampons to the vaginal vault, with the result that she menstruated only every 4 weeks, and without pain, and she felt lighter and better in every way. When I returned from Europe in Sept., 1887, she came to me again; owing to the very hot summer she was feeling very miserable; the vulva was very swollen and full of large veins, there was a cystocele and rectocele, and the uterus protruded from the vulva almost as much as when I first attended her. The sound entered four and a half inches.

I at once began the use of the secondary faradic current, through the coarse short wire, applied with Apostoli's vaginal bipolar excitor; this had a very marked effect; the vaginal muscular tissue and the muscles of the ligaments of the uterus, being put into such a state of contraction that the instrument could be felt to be grasped firmly and drawn

upwards. After the first application the uterus remained up for two hours. I continued to apply the faradic current of quantity to the vagina during 10 minutes at intervals of two days, and after each time the prolapsed organ remained up longer and longer, until at the end of a month it did not come down at all. She now felt very much relieved, and more able to do her work; still I was not satisfied, because she yet complained of a tired feeling at the bottom of her body when she remained many hours standing; on reflection this was easy to understand, I had strengthened the supports without, however, diminishing the weight to be supported. The four and a half inches to which the sound penetrated represented a weight at least double that of the normal organ, and although they were able to hold it up for a considerable time, they would at last become tired out and let it fall. On the 23rd of Sept., I began to apply the constant galvanic current, 60 milliamperes for 10 minutes, to the interior of the womb, by means of the platinum sound, and continued to repeat it every 4 or 5 days between the menstrual periods. Menstruation, which by the tampon and hot water treatment had been reduced to three days, with intervals of four weeks, in May, had gradually gone back to 8 days in the following Sept. But after 10 positive galvano cauterizations, her period in Nov. only lasted 3 days.

She came to my office a few days ago to report herself, as I had requested, and stated that her last period (Jan., 1888) only lasted 2 days, and she was feeling better than she ever felt in her life, and that those clay plasters (as she called them) had done her more good than all the other remedies put together. She certainly looks now ten or fifteen years less than her age.

Conclusions: this is just one of a class of cases that come to our office every day, and which give us a great deal of trouble and very unsatisfactory results. Most often they decline to be operated upon, and the time honored pessary will not only not hold the uterus up, but it will not even hold itself in. For such the electrical treatment is the most rational one, for without cutting away any part of any organ, it restores to the supports their lost function, and removes from the uterus its morbid hypertrophy, merely by increasing the vitality of the trophic nerves, and thereby calling back into the circulation the morbid material deposited in the midst of the normal tissues. In cases where there is no hypertrophy, the faradic current of quantity

alone would suffice to restore the organ to its normal position (as I have witnessed many times in my office), but in other cases it is absolutely necessary to restore the uterus to its normal size and weight first.

Another remarkable thing in this case which I have noticed in nearly all the others, is the decided feeling of well being after the constant current, and also the tonic effect it has upon the bowels. With this remedy then at our disposal we need no longer dread the arrival of these cases at our office, for instead of being an opprobrium to our skill, the treatment of each one of them becomes a triumph.

Society Proceedings.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, October 28th, 1887.

JAS. PERRIGO, M.D., PRESIDENT, IN THE CHAIR.
PATHOLOGICAL SPECIMENS.

Parasitic Onychia.—Dr. JOHNSTON exhibited (1) a microscopic section of a nail showing parasitic onychia. The specimen was sent him by Dr. Bell who had believed the case to be of this nature. The chains of trichophyton were seen in moderate numbers in the deeper layer of the nail and between the nail and its bed, though a mass of dry porous tissue formed over the bed of the nail was free from the parasite.

Dr. BELL gave the following history of the case: Miss E., aged 20, in scraping the back of her thumb nail about a year ago, cut through it about the middle. A light brown spot developed at this point and gradually extended to its free margin, and then began to grow backwards towards theatrix. It was painless. When seen the anterior two-thirds of the nail was dull and dry-looking, yellowish-brown in color, and raised from its bed at the free anterior margin to the extent of nearly half an inch. The tissue between the nail and its bed, at the margin, was quite dry and cancellated, resembling the cancellated structure of a dry bone. The nail was removed by sitting down the centre and removing the two portions separately. This cancellated structure was separated from the nail-bed by a thin fibrous layer, beneath which the nail-bed was absorbed. Owing to its peculiar appearance the nail was macerated and sections cut through the diseased part. On examination, there showed in

considerable quantities the mycelium and spore of the trichophyton, resembling the fungus as seen in *tinea circinata* rather than as usually seen in *T. tonsurans*. There was no history of tinea on this patient's skin, nor, as far as she knew, on other members of her family.

Broncho-Pneumonia.—(2) A microscopic section through the lung of a sheep in a case of broncho-pneumonia, where great numbers of the embryos of *strongylus filaria* were found in the alveoli, which were filled with exudation, and there was severe bronchitis and peribronchitis of the smaller tubes. The adult forms were not found within the bronchi, having probably been coughed up. The embryos are not able to develop beyond this stage in the lung.

Amputation of the Thigh.—Dr. BELL exhibited a patient whose thigh had been amputated for periosteal sarcoma. (The specimen was exhibited at the last meeting.) This patient was 18 years of age, and at the time of operation was in a very bad condition. His temperature ranged from 100°F. to 103½°F., his pulse from 120 to 140 per minute, and he was greatly emaciated. Amputation was performed by the circular method, about two inches below the base of the trochanter major, on the 3rd of October, and from that time his condition improved with extraordinary rapidity. His temperature remained steadily at 98½°, and he rapidly regained flesh. The dressing was changed once only on the eighth day, and finally removed on the twenty-fourth day after operation, when the stump was soundly and perfectly healed.

Osteotomy for Bow-legs.—A child 3½ years of age was shown to the Society, on whom Dr. Bell had performed double osteotomy. The condition was the result of rickets, from which the child had perfectly recovered. The operation had been done by MacEwen's method, and had resulted very favorably. Photographs were shown of the child's legs before operation.

Discussion.—Dr. RODDICK referred to the good results obtained by Dr. Bell using bone drains. His experience with this mode of draining was not so favorable, as he found that the bone drains were too rapidly absorbed. While he congratulated Dr. Bell on the excellent results obtained in his operation for bow-legs, yet he could not agree with the necessity for the operation. Dr. MacEwen, who introduced the operation, does not recommend its application in patients under 9 years. He (Dr.

Roddick) had obtained quite as good results from the use of mechanical contrivances in children even older than the patient. He thought that in most cases subcutaneous fracture is to be preferred to osteotomy as it is a less serious operation, and offers less risk. While opposed to operations in most of these cases of deformity he thought it was more often called for in knock-knees than in bow-leg, as the former requires much longer and more painful treatment.

Dr. SHEPHERD said that in one of the few times he had used bone drains he found patient's temperature had risen and the drain plugged with a clot. He always prefers using rubber drains, which he cuts down to three-quarters of an inch at end of twenty-four hours. In Germany the "single dressing" mania often results disastrously to the patient. In German hospitals he was frequently shown single dressing-cases where the temperature chart indicated an unhealthy condition of the wound. He had seen Dr. Bell's patient before operation, and could heartily congratulate him on the success of his operation. With regard to the osteotomy case, he referred to the erroneous but common opinion that all cases of bow-legs results from rickets. The peculiarity, is often hereditary, and is quite normal in many of the anthropoid apes.

Dr. ARMSTRONG referred to Dr. Lewis' system of drainage. He used solid rubber strings placed side by side, instead of tubes, thus obviating the danger of plugging.

Dr. GURD said he had seen very good results from treatment of bow-legs by improving the general health. He had great faith in the efficacy of good hygienic surroundings and the use of tonics in such cases. Instruments have proved unsatisfactory.

Dr. BELL, in reply, stated that the drains used were made from chicken bones, by the method recommended by Dr. MacEwen of Glasgow. These could be obtained as hard or as soft as desired. In the case of osteotomy, the curve in the child's legs was greatest just above the maleolus, so it could not be treated by subcutaneous fracture.

Notes on Acetanilide.—Dr. McCONNELL first briefly stated what was known about acetanilide or antifebrine up to the present time. It was procured from aniline acetate, is a white powder resembling santonin, insoluble in water, but soluble in alcohol. It is neither alkaline nor acid, and resists the majority of reagents. Belongs to the order *Phenylacetamides*, quite different from the orders containing the majority of antipyretics, viz,

the Phenols and Chinolins. Actions claimed for it are that it rapidly reduces the temperature in febrile states, without producing any untoward effects; that it is also hypnotic and analgesic, being especially useful in relieving pain linked with nerve alterations. In poisonous doses it will destroy oxy-hæmoglobin, changing it into methæmoglobin. It is inexpensive, being only 10 francs per 1 kilogramme in France. Had used it in about 20 cases 16 of which he had records of—9 were cases of typhoid fever—in all of which the temperature was promptly reduced. The following case may be regarded as typical of its action in this disease:

Girl aged 9; Oct 25th was seventh day of fever at 5 P.M., five grs. acetanilide were given, when pulse was 120, respirations 28, and temperature $105\frac{2}{3}^{\circ}$

5.00 p.m.—Pulse 120, resp. 28, temp. $105\frac{2}{3}^{\circ}$ —
Face and general surface pale, dry, and hot.

5.10 p.m.—Pulse 120, resp. 20, temp. 105° —
Pink flush on both cheeks, pulse stronger.

5.20 p.m.—Pulse 120, resp. 32, temp. $104\frac{3}{8}^{\circ}$ —
Forehead, neck and trunk moist, and whole surface of Reddish hue; somewhat more restless.

5.30 p.m.—Pulse 112, resp. 32, temp. $103\frac{3}{8}^{\circ}$ —
Has become tranquil and fallen asleep; skin moist, no visible perspiration.

6.00 p.m.—Pulse 120, resp. 30, temp. $102\frac{2}{3}^{\circ}$ —
Surface in same condition; still sleeping.

6.30 p.m.—Pulse 108, resp. 24, temp. $100\frac{2}{3}^{\circ}$

7.00 p.m.—Pulse 102, resp. 24, temp. 100° —
Asked for a piece of bread.

7.30 p.m.—Pulse 102, resp. 24, temp. 100°

8.00 p.m.—Pulse 108, resp. 25, temp. $100\frac{2}{3}^{\circ}$ —
Skin has become dry.

8.30 p.m.—Pulse 108, resp. 30, temp. 101° —
Pulse diminished in volume and of less force.

9.00 p.m.—Pulse 112, resp. 30, temp. $101\frac{4}{5}^{\circ}$

9.30 " " 112, " 30, " $102\frac{2}{3}^{\circ}$

10.00 " " 116, " 28, " $102\frac{1}{5}^{\circ}$

10.30 " " 120, " 30, " $103\frac{1}{5}^{\circ}$

11.00 " " 120, " 32, " 103°

1.20 a.m. " 120, " 30, " $103\frac{2}{3}^{\circ}$

Oct. 26; 11 A.M.—Mother states child appeared to be very feverish from 12 to 8 A.M., and was restless and drank milk frequently. Six grs. were given to-day; same effects observed, only there was more perspiration, and temperature became normal, remaining so for only an hour. Temperature subsequently rose on the 30th to 106° , and on the 31st to $106\frac{2}{3}^{\circ}$, but was always reduced to about normal; but the doses were

increased to 8 grs. Three and four doses were required in the 24 hours to keep the temperature at or about normal, child resting quietly after each dose and taking nourishment freely at present date, Nov. 7th. It would seem in this case that the temperature, after the effects of acetanilide had passed away, rose higher through its action.

Case 1.—Boy aged 12, typhoid; Oct, 20th, 1.30 P.M., ninth day of fever, pulse 120, temperature $104\frac{1}{2}^{\circ}$; five grs. reduced temperature $98\frac{1}{4}^{\circ}$ in three hours. This dose acted in the same manner on the 21st and 22nd. Did not rise again above 102° , and gradually declined.

Case 2 has a similar record, and also Case 3.

Case 4.—Young lady, aged 29 years; mild typhoid, Sept. 11th, tenth day, has had troublesome headache since she became ill, and could not sleep during last two nights. Six grs. acetanilide were given at 10 P.M. Patient fell asleep in fifteen minutes and slept all night, and was free from pain when she awakened; it returned the two following days, but was slight.

Case 5.—Lad aged 12, typhoid. On March 28th, the 27th day of fever, temperature was $104\frac{3}{4}^{\circ}$. Six grs. acetanilide caused a profuse perspiration and slight cyanosis. Subsequently 4 grs. reduced the temperature below normal; 3 grs. was found to be a sufficient dose. After April 1st temperature gradually came down to normal.

Case 6.—Young lady, aged 19; mild typhoid. The severe headache was also promptly relieved by 6 grs. acetanilide; did not return.

Case 7.—Boy aged 9; double lobar pneumonia. June 13th, pulse 144, respirations 48, temperature $105\frac{3}{4}^{\circ}$; 5 grs. acetanilide reduced temperature, to normal in three hours; in five hours after dose, pulse 120, temperature $100\frac{2}{3}^{\circ}$, respirations 32. 14th, 1 P.M., pulse 140, respirations 44, temperature 106° ; at 2 P.M., 5 grs. were given; at 5 P.M. temperature $97\frac{3}{4}^{\circ}$, and at 9.30, pulse 132, temperature $102\frac{1}{2}^{\circ}$, respirations 36. 16th, 5 grs. at 2 P.M. reduced temperature from 105 to $101\frac{1}{2}^{\circ}$ in three hours; 11 P.M., pulse 112, temperature $102\frac{1}{4}^{\circ}$, respirations 56. 19th, 11 A.M., respirations 68, pulse 120, temperature $103\frac{1}{2}^{\circ}$. 20th, temperature normal.

Case 8, Septicæmia (Puerperal).—Patient aged 37, her first child. Forceps used and artificial extraction of placenta; antiseptic uterine douches were used and iodoform suppositories. Temperature was not high until the tenth, day 104° ; on

the eleventh day, 8 grs. acetanilide reduced temperature to normal. Did not rise again above 102° ; curette used on the thirteenth day; in two evening days after, temperature was normal, with slight exacerbations.

Case 9.—Young man, aged 23; pneumonia (double). On Oct. 16th, sixth day, pulse 120, respirations 64, temperature $103\frac{3}{4}^{\circ}$; 8 grs. reduced temperature, causing profuse perspiration. 17th, 1 P.M., temperature $102\frac{2}{3}^{\circ}$; 8 P.M., temperature $99\frac{3}{4}^{\circ}$, pulse 90, respirations 36.

Case 11 has much the same record.

Case 12, Puerperal Septicæmia.—Patient confined in a house where there was a case of erysipelas in next room. All antiseptic precautions were observed, but next day temperature was $105\frac{1}{2}^{\circ}$; uterine douches of corrosive sublimate, followed by carbolic acid and then iodoform suppositories were used; 8 grs. acetanilide brought temperature to normal, with profuse sweating. This dose was repeated on the two following days, after which there was no further elevation of temperature.

Case 13.—Nervous headache, lady aged 28, had lasted two days; 5 grs. acetanilide gave complete relief in about two hours. Same results in two subsequent attacks.

Case 14.—Erysipelas.—Boy aged 15. Oct. 27th, noon, 7 grs. acetanilide were administered; temperature was $104\frac{1}{4}^{\circ}$. In three hours temperature was still 103° ; 8 grs. were then given; in two hours temperature was 102° . 28th, 2.30 P.M., pulse 110, temperature 105° ; 15 grs. acetanilide were given. In $3\frac{1}{2}$ hours temperature was 100° ; in $4\frac{1}{2}$ hours after, respirations 20, temperature $99\frac{3}{4}^{\circ}$; perspiration has ceased. For several days these large doses were required to keep temperature down; no fever Nov. 2nd.

Case 15.—Lady, aged 22; one day ill. Severe headache, general soreness, pains in back, anorexia, coated tongue, and temperature $104\frac{3}{4}^{\circ}$; 8 grs. acetanilide at 10 p. m., purgative in morning. Went asleep shortly after taking powder. Temperature next day normal; no headache; feeling quite well.

In Case 9, typhoid, young man aged 23, half-hours record of temperature was kept on the two occasions when it was administered, with results similar to Case 1.

According to Wood, Macalister and others, fever is a disturbance of calorification in which, through the nervous system, heat production and

heat dissipation are both affected; that there is a nervous centre which inhibits the production of heat and a thermogenic centre (located by Aronsohn and Sachs at the inner side of the corpus striatum), which excites increased tissue change; that heat dissipation is regulated by the vaso-motor nerves; that temperature is no indication of fever, as heat production may be normal, but elevation of temperature results from diminished heat loss, and we may have increased heat production (pyrexia) but, owing to increased heat loss, no elevation of temperature. Hyperpyrexia ensues when heat production is increased with diminished heat loss. Antipyretics act either by lessening the production of heat, as quinine, salicylic acid, and all cardiac depressants, or by increasing the loss of heat, as alcohol, sudorifics, cold, antipyrin. Acetanilide also belongs to the latter group. From the reports of these cases, we can gather that acetanilide in proper doses will, in the elevation of temperature of typhoid fever, pneumonia, erysipelas, septicæmia, and doubtless all febrile states, bring about a state of apyrexia, or a subnormal temperature if the dose is larger, in from two to four hours, the temperature beginning to fall usually in from ten to 15 minutes after its administration, instead of an hour as hitherto usually reported, the reduction ordinarily being five or six degrees, and may be over eight; the pulse rate is lessened simultaneously with the fall of temperature and also the number of respirations. The dose varies from 6 to 15 grains for an adult, is easy of administration, and best given in wine or simple elixir. In an hour or two after the lowest temperature the dose produces is reached, it again begins to rise, and in four to eight hours may be as high as before the dose was taken, or it may not rise as high again for several days or even throughout the illness.

Idiosyncrasy or individual susceptibility to the action of the drug varies considerably, and in cases where there is not any apparent evidence for anticipating dissimilar effects; disease also exercises a modifying influence, cases of erysipelas requiring larger than ordinary doses. Hence it is desirable to begin with small doses and increase, if necessary, until the quantity which will bring the temperature down to normal is learned. It first stimulates the vasomotor (constrictor) system, leading to increased arterial tension, quickly followed by dilatation of the cutaneous arterioles, thus permitting increased radiations or heat, perspiration immediately supervenes, and the temperature rapidly declines with lowered arterial tension.

It is an analgesic, giving speedy relief in neuralgic pain and headache, being especially serviceable in the headache present in the early stage of typhoid fever.

It is also a reliable hypnotic and nervous sedative in the sleeplessness and excitability of febrile states.

It doubtless in over doses, as evidenced by cyanosis, inhibits the respiratory functions of the blood probably as explained by so modifying the hæmoglobin that less oxygen is conveyed by the corpuscles and a state of internal asphyxia ensues, the diminished oxidation thus lessening heat production. It has no influence in shortening the course of zynotic affection; hence in typhoid, would not consider its administration advisable unless the evening temperature was above 103, the dose to be repeated in five or six hours, as necessary. No untoward effects result when proper doses are given, the patient's invariable statement being that they feel better, and in the state of apyrexia may experience hunger; even in over-doses, the temporary cyanosis is quickly recovered from without and evil result.

Discussion.—Dr. PROUDFOOT had used acetanilide in painful affections of the eye, such as iritis and glaucomata, in doses of 10 to 15 grs. He found it reduce the temperature and relieve the pain almost instantly. If the pain was not relieved in one hour, he usually repeated the dose.

Dr. STEWART said he had very little experience in the use of the drug. He had, however, administered it in five-grain doses to relieve the lightning pains of locomotor ataxia, and found it very efficient. He regarded it as dangerous to give powerful drugs in fever cases to reduce the temperature, as these act on the oxyhæmoglobin, thus reducing the patient's powers of resistance.

Dr. REED stated that from Dr. Charcot's recommendation he had used it, but had not been able to relieve pain. He had found it reduce the temperature for a time, though not sufficiently to encourage him to continue its use.

Dr. PERRIGO said that the drug failed entirely in a case of malaria, in which he had tried it.

Dr. RODDICK congratulated Dr. McConnell on finding something to relieve the distressing headache of typhoid. He had given it in a case of erysipelas, but it had no effect on the temperature.

Dr. BLACKADER had also administered the drug in erysipelas with very little effect. The German authorities state that it is without effect in scarlet

fever and erysipelas. He thought, however, that the anodyne properties of the drug would keep it in the pharmacopœia.

In reply to remarks of Dr. Stewart that its action on oxyhæmoglobin was an objection to its use, Dr. McCONNELL said this only occurs to any appreciable extent when over-doses are taken. The antipyretic action is almost altogether exerted through the nervous system, and chiefly the vasomotor. The want of effect in cases referred to by Drs. Reed and Perrigo was owing to its having been administered in too small doses.

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Stated Meeting, Nov. 11th, 1887.

WM. GARDNER, M.D., 1ST VICE-PRESIDENT, IN
THE CHAIR.

Treatment of Ulcers after Thiersch's Method.—Dr. BELL read a paper on the treatment of ulcers by Thiersch's method of skin transplantation.

Discussion.—Dr. HINGSTON regarded the results obtained by Dr. Bell as highly satisfactory. He thought the greatest drawback to the method was the difficulty of obtaining these large pieces of skin sufficiently thin.

Dr. RODDICK thought that this mode of treatment was an improvement on all others for certain kinds of ulcers. He did not think it was necessary to dissect out the ulcer; a fresh surface could be obtained by scraping. The first case shown was under his care in the hospital. He at one time held suspicions that it was a case of epithelioma; he intended, however, to have scraped out the ulcer and filled it up by skin-grafting.

Dr. SHEPHERD referred to some cases he had seen treated in this way in New York three years ago. Surgeons have been known to use the whole thickness of the skin.

Dr. CAMPBELL said that many old methods are often forgotten in the search after new ones. He regarded the old method of strapping ulcers, known as Beyuton's method, as one of the best. This method and the treatment by blistering, though now largely supplanted by others, had formerly yielded him excellent results.

Dr. BELL, in replying, stated that he did not claim this method to be the best for all classes of ulcers, but did believe that it was applicable to ulcers that could not be healed by other methods. He always carefully removed all the diseased tissue before applying the skin-grafts, but did not

think dissecting out every ulcer was necessary. He had dissected out the ulcer in the first case because he feared that deeper tissues were involved. He had seen successful cases in Germany where the deeper tissues had to be removed, and even pieces of bone chipped off before applying the new skin. The longest time taken by any of the ulcers to heal was thirty days; that was his first case. It was dressed on the fifth and thirteenth day; none of the other cases were dressed before the twenty-first day, when he invariably found the ulcer healed. This method possessed the great advantage of growing a good sound skin to the ulcer, and does not necessitate reducing the ulcer to a healthy condition before grafting.

Cystine Calculi.—Dr. RODDICK exhibited several small cystine calculi passed per urethram. The patient is a delicate-looking man, 57 years of age; he gave a history of several attacks of renal colic, the first occurring three years since, followed by the passage of some fifty calculi varying in size from a pin's head to a pea. Lately the attacks have been less severe, and all have not been followed by passage of stones, but always gravel. Pain formerly equally severe over both kidneys, of late only over left. No hereditary history of stone of any kind.

Remarks.—Cystine calculi are exceedingly rare—less than one per cent. in European collections. Gross says he never met with it. The disease is common in dogs. Nearly all cases previously reported show hereditary history. This form of calculi always forms in the kidney, and is usually multiple. They have the appearance of beeswax, and soft enough to be compressed, as in the specimens exhibited, where from lying in contact either in the kidney pelvis or the prostatic urethra have become faceted. The majority of the stones passed in this case are coated over with uric acid.

Discussion.—Dr. RUTTAN, after showing a slide of crystals of cystine under the microscope, demonstrated some of its chemical reactions. He also stated that this variety of calculi is not always soft when passed, as by remaining in the bladder for any length of time they may become coated with uric acid or phosphates. Some of the calculi shown are coated with uric acid; one calculus containing about 25 per cent. Owing to the peculiar constitution of cystine, it combines with and is soluble in either strong alkalies or acids, thus easily distinguished from uric acid. The

sulphur is readily detected either by boiling the powdered calculi in lead acetate and caustic potash, or by fusing with potash and adding a drop of nitroprussiate of soda; the purple color in the test is very marked. As no other calculus-forming substance contains sulphur, the detection of its presence in a calculus proves it to be cystine. Cystine was also found in marked quantity in the patient's urine.

Dr. REED referred to a fine specimen belonging to Dr. Fenwick, which had been removed by lithotomy. It was soft like wax while in the bladder. The appearance of the hexagonal crystals under the microscope resembles iodoforn, and care must be taken not to confound the one with the other when this drug has been used in injections.

Case of Periosteal Sarcoma of Femur.—Dr. RODDICK gave the following history: The patient was a young man, a civil engineer by profession, 24 years of age, thin and anæmic. Distant family history of tubercle, but none of cancer or tumor of any kind. No history of syphilis. He was quite well up to July last, when he sustained slight injury to left knee, aggravated later by kneeling in canoe for several days paddling. The case looked at first like simple or rheumatic synovitis, and he was treated as such by blistering, etc. When he came under observation here the effusion was very great, causing severe pain from tension; skin thickened and slightly œdematous, not like the smooth, glistening or white appearance of ordinary or strumous synovitis. Aspiration showed thin, bloody serum containing blood-clots and debris of tissue. Suspected sarcoma, and made exploratory incision.

Remarks.—Had patient's condition warranted, would have preferred amputation at hip, as I believe periosteum sarcoma more liable to recur owing to continuity of periosteum. Would be less afraid of recurrence in central or myeloid sarcoma. Patient was doing well at time of report, one week after operation.

Discussion.—Dr. HINGSTON said he could agree with Dr. Roddick in the unsatisfactory nature of an amputation in the continuity of the bone in periosteal sarcoma. He had formerly operated leaving a portion of the bone, but found he had almost invariably to operate again later to remove the rest of the bone. In his opinion, operation in the continuity of the bone is always unsatisfactory, while removal of the entire bone has given him the best of results.

Dr. SHEPHERD said that in his experience the disease generally reappeared in either form of operation, not in the stump, as a rule, but in some of the organs of the body.

Dr. BELL could recall many cases during his experience in the General Hospital, where the limb had been amputated in the continuity of the bone. In all these cases the disease had recurred in some of the internal organs. Cancer, in his opinion, does not spread by the periosteum, but through the lymphatic system.

Resection of the Intestine.—Dr. JAS. BELL showed a specimen from the following case:—B. D., aged 17, was admitted to hospital on the evening of the 8th of November, suffering from a strangulated inguinal hernia. The boy was a plumber by occupation, and had never had a hernia until Sunday, the 6th of November, two days prior to admission, when he complained of pain in the upper zone of the abdomen and noticed the swelling in the right scrotum. He took a dose of black draught, which produced in the night one small motion. Vomiting set in the following morning and continued until his admission to hospital. The patient was anæsthetized, and moderate taxis having failed, herniotomy was performed. The sac was opened and found to contain about ten inches of small intestine, very firmly strangulated in the whole length of the canal, which was enlarged, and the bowel drawn out and examined. It was very black, but glistening, and distended with air, and was consequently returned. The obstruction symptoms, however, remained unrelieved, and tympanitic distension of the abdomen developed gradually. The pulse and temperature, as well as the general symptoms, indicated peritonitis. Thirty-six hours after the herniotomy it was decided to open the abdomen and endeavor to relieve the obstruction. The abdomen was opened in the middle line. There was general peritonitis, and the intestines were hyperdistended with gas. The obstruction was found to be due to the collapsed and kinked condition of the portion of gut which had descended in the hernial sac. It was the lower portion of the ileum, and was quite gangrenous, lines of demarcation forming at the points where it had been constricted at the internal ring. The gangrenous bowel was excised with a triangular portion of mesentery, the operator cutting through the healthy bowel about half an inch beyond the forming line of demarcation at either end, the lower section being about three inches from the cæcal valve. The

distended intestines were punctured by hollow aspirating needles to evacuate the gas before they could be returned. After excision, the ends of the bowel were carefully united by silk sutures; the first six or eight being carried through the whole thickness of the wall of the gut at opposite points to secure accurate coaptation and then a continuous Lembert suture. The abdomen was washed out with warm water, a drainage tube left in the lower end of the wound, and a gauze dressing applied. The operation occupied one hour and a half, and the patient, who only partially rallied, died two hours after its completion.

Discussion.—Dr. SHEPHERD said that he regarded the so called lustre as a very deceptive characteristic of healthy intestine. The bowels of subjects in the dissecting-room show a well marked lustre.

Dr. RODDICK thought that the operation of the future would be to open the abdomen at once and thus obtain a good view of the affected intestine. This is the great difficulty of the ordinary method of operation. He had seen many worse cases than Dr. Bell's recover.

Dr. HINGSTON said his rule in strangulated hernia is to operate at once. He had been often astonished to see how quickly cases would recover where the hernial mass was quite black when returned to the abdomen. Removal of a piece of intestine is always a very serious operation. He made a practice to return the bowel in every case.

Specimen of Tubercular Cystitis.—Dr. JOHNSTON exhibited the bladder and kidneys of a tuberculous case occurring in the practice of Dr. Roddick. An unhealed fistula was shown opening into the urethra in front of the prostate; upon the walls of the fistula and about the base of bladder were a few tubercles; the rest of the bladder was free from tubercles. The right ureter showed numerous patches of tubercular ulceration, and in right kidney two of the calices presented extensive caseous softening; left kidney and ureter free from tubercles; acute miliary tubercular peritonitis and pleuritis; miliary tuberculosis and amyloid of liver, spleen and kidneys, commencing tubercular meningitis.

Dr. Johnston stated that he had examined a specimen of the patient's urine, sent him about a week before the death, and could find no bacilli. It had surprised him when on making the autopsy such extensive caseous softening of the pelvis of the right kidney was seen, as this usually yields enor-

mous numbers of tubercle bacilli. Examination of the caseous masses in the kidney, however, in about twenty specimens he found no bacilli. A small number of bacilli were found in the ulcers in right ureter and in the walls of the fistula, and this should have shown the true nature of the case had a larger quantity of urine been examined.

Dr. BELL had the case under observation some time, and about a year since, suspecting either stone or tumor of the bladder, performed median lithotomy, but failed to find any foreign body. The perineal opening never closed, and it was to receive some relief for this that he was admitted to hospital under Dr. Roddick's care.

Dr. RODDICK stated that he attempted to close the perineal opening by a plastic operation, but this failed. The immediate cause of death was tubercular meningitis. He had a case at present in hospital where he had long suspected tubercular disease of the kidney, his suspicions being at length confirmed by the discovery of bacilli.

Dr. SHEPHERD said that Dr. Guion of Paris states that tuberculous affections of the trigone of the bladder or of the prostate is always characterized by symptoms closely resembling those of calculous, such as pain at the end of the penis and frequent micturition, the pain increased by movement, etc.

Dr. JOHNSON stated that in this case the oldest disease was near the prostatic portion of the bladder, and that there were caseous masses in each epididymus.

Saccharine.—Dr. REED made a few remarks on this remarkable substance, and passed around a specimen. It is obtained from TOLUENE, a coal-tar derivative. The intense sweetness of the compound, two hundred and fifty times that of cane sugar, and its inertness, have made it useful in preparing anti-diabetic diets, and it is now being used with success. It is a white powder, sparingly soluble in water; half a grain is sufficient for sweetening a cup of tea or coffee. Even at its present price of seventy-five cents per ounce, it competes with sugar.

Stated Meeting November 25th, 1887.

DR. GUERIN, 2ND VICE-PRESIDENT, IN THE CHAIR.

New Members.—Drs. H. Perry and Lorne Campbell were elected members.

Multiple Onychia.—Dr. JAMES STEWART exhibited for Dr. R. J. B. Howard a case of multiple onychia occurring in a young man aged 18.

Some Questions suggested by the present Epidemic of Diphtheria in Montreal.—Dr. Armstrong then read a paper on this subject.

Discussion.—Dr. PROUDFOOT could thoroughly concur in what Dr. Armstrong had said with regard to the difficulty sometimes experienced in diagnosing a case of diphtheria from "follicular tonsillitis." He had seen cases where the tonsil was inflamed, and there was no membrane to be seen, but which subsequently developed a severe form of diphtheria. He thought, however, that where the glands of the neck were simultaneously inflamed, we might be pretty sure that the case was one of diphtheria. With regard to the recurrence of the disease in the same person, he was of opinion that a patient who had true diphtheria was seldom again attacked by the disease; he had never seen more than two or three cases of the kind.

Dr. MILLS thought that one of the most interesting and important questions in connection with diphtheria was the causation of the cardiac weakness and the lesions peculiar to the heart. Experimental examination of numerous animals had now made it clear that the vagus was all important to the nutritive processes of the heart. There were many clinical and pathological facts which supported the same view for man. It seemed doubtful if the poison of diphtheria injured the heart solely or chiefly by affecting the muscular tissue directly through the blood. Did the virus act directly on the nerve terminals or on the active centres of the cardiac nerves or other centres of distribution (sympathetic ganglia is case of accelerators)? Fatty degeneration of the cardiac tissue follows section of the vagi. May not the degenerations in diphtheria have also a nervous origin? It is important to determine this, as behind it lies the question in this and many other cases of cardiac disease of therapeutic treatment through the nerves of the heart or their centres. Dr. Mills thought the present time, when diphtheria was so prevalent, afforded a good opportunity to raise the question as to what action the Society should take in regard to some expression of opinion on the general sanitary condition of the city, with a view of calling more directly the attention of citizens to the subject, and if possible of rousing the civic authorities to take such steps as were called for by the gravity of the sanitary situation for some years past. It seemed to him that it was the privilege and duty of society, representing the English part of the profession

at least, to enlighten and warn the public in regard to matters of such vital importance, and on which the Society was supposed to be specially competent to form opinions. Their warnings might not always be heeded, but they tended to form and strengthen enlightened public opinion; and, at all events, the question was not one of practical result but one of the duties of the more informed towards the less informed, and in not a few cases the infantile and helpless members of the community.

Dr. GEO. ROSS said: The only difficulty in dealing with the paper, which was of much interest at the present time, was the extensive ground covered by it; indeed any one or two of the important points raised would be sufficient to occupy the attention of the Society for an entire evening. The question of the accurate diagnosis of diphtheria was even yet a vexed and undecided one. Some eminent observers, notably a somewhat recent writer in New York, go so far as to say that there are more cases of diphtheria walking about than are to be found in bed; thus assuming that practically all those sore throats which most of us call exudative or follicular tonsillitis are really of a specific and infectious nature. He cannot agree to this. An immense amount of clinical evidence might be adduced against the supposition. It is true that occasionally a genuine diphtheritic exudation is seen occupying the crypts of the tonsils, and showing as small and circumscribed yellow patches upon the faces of these two organs, but this occurrence is very rare in his experience. A recent case in hospital practice exemplified the condition where the duration and the fact of its occurring in a family, where three other members were simultaneously suffering from rather severe diphtheria, conclusively demonstrated its specific character. As regards nasal diphtheria, this form is generally and with much justice looked upon with alarm, the situation affected being thought to add considerably to the risk of septic infection of the system. In cases of moderate severity, when the nasal passages are secondarily involved, this would certainly appear to be the case, but in at any rate some of the cases of primary nasal diphtheria, the course of the disease is remarkably subacute and of mild form, without any danger to life. This fact is sometimes lost sight of by practitioners, and children thus affected are supposed to be suffering from common coryza, often with disastrous results in the family. During the epidemic prevalence of

diphtheria, in all cases of apparent catarrhal fever, the nasal fossæ should be carefully examined for membrane. It is seldom that this cannot be readily seen, if present. With reference to Dr. Armstrong's question as to the causation of urinary suppression, he was of opinion that in some cases this was the result of organic changes in the kidneys, other phenomena being quite secondary to this; whereas in a second class of cases, the primary effect was upon the nervous mechanism of the heart, disturbing its regularity and lowering the force of its contractions, the partial or complete suppression following from diminution of blood-pressure. As intubation of the larynx was a novel procedure here, Dr. R. would like to mention his experience of three cases (further details would be furnished by Dr. Major who operated). No. 1 was first seen on the eighth day of illness—a boy 5 years of age, was cyanotic, intensely distressed, and rapidly asphyxiating. Tube in larynx gave instant relief. He died ten days later from gradual heart failure, but air entered lungs freely. No. 2, girl of 5—too small a tube introduced was soon coughed out, followed by expulsion of complete cast of larynx and upper trachea; immediate relief and complete recovery. No. 3, girl of 4 years, admitted to hospital after some days illness; very extensive, thick and foul membrane in fauces; very weak; soon had nephritis, and showed a marked septic state; a fatal prognosis given; but intense laryngeal dyspnoea came on; to relieve this, larynx was intubated, with immediate and complete relief to breathing for twelve hours before death. It remained, of course, for further experience to enable us to compare this procedure with the operation of tracheotomy. Dr. Ross said he was trying the local application of "papoid" in diphtheria. It was applied by means of a brush in five per cent. solution every half hour. In hospital he had treated 26 cases, many of them severe, and some of them very severe, also some mild. Of these, 13 were discharged well; 12 remained under treatment, but he thought, without doubt, would all recover; one only died. He was certainly favorably impressed with the action of the drug, but could not say more than this until extended observations had corrected or confirmed first impressions.

Dr. CAMERON remarked that in his practice ear and nasal complications have been very common during the present epidemic. In some cases a chronic nasal discharge, more or less irritating in nature, persists for a considerable time. He raised

the question whether such nasal discharges were infectious, whether there was any way of determining when they ceased to be infectious, and whether it was right to give a clean bill of health to a patient with chronic nasal discharge after diphtheria. He was inclined to consider these nasal discharges as always more or less dangerous. He then called attention to the lax and unsatisfactory manner in which the health officials deal with the infectious cases, which they now compel medical men to report to them. It is hard to say just where the fault lies, yet it is painfully evident that under present arrangements the reporting of infectious cases results in very little good. The public have a right to expect preventive measures, and are not satisfied with so called disinfection of premises and the compilation of statistics and reports. It seems as if aldermanic patronage lay at the root of the soil. Satisfactory administration of our health department can never be secured while health officials are blocked and thwarted in the fulfilment of their duty, and made to feel that their tenure of office depends upon their pliability.

Dr. MAJOR strongly pronounced against the idea that lapse of time granted immunity from contagion in diphtheria. In the cases of persons in attendance on diphtheria, no specified time would be sufficient to destroy the germs. In so far as danger to others was concerned, such persons were as likely to convey the disease in three weeks after exposure as in three days. In proper disinfection alone could we look for safety. In persons afflicted with the disease, after all traces had disappeared, he considered a few days ought to be allowed to elapse, during which daily disinfection should be practised before allowing of contact with others. The question of the influence exerted by an unhealthy condition of the nose or throat in favoring the development of diphtheria is an important one. There can be but little doubt that a chronic state of hyperæmia, such as is so commonly met with, will increase the liability to diphtheria. In the case of a little girl, a patient of Dr. A. A. Brown, I excised a large tonsil, within a year afterwards this child contracted diphtheria. The duration of the illness was three weeks, and although the opposite tonsil and the surroundings of the ablated one were covered with membrane, the cicatricial surface remained free throughout the period of three weeks, during which membrane was present in quantity. The same observation was made recently in a case of syphilitic cicatrization of

pharynx, wherein the cicatricial tissue was wholly free from exudation. In the case of a child whose pharynx had been injured by swallowing iye, the same absence of membrane on cicatricial tissue was remarked. All this goes to show that membrane is favored by an excessive circulation and *vice versa*. In reply to Dr. J. C., Cameron's question, Dr. Major stated that in nasal diphtheria care should be taken that all discharge from the nose has ceased before a clean bill of health was granted. As Dr. George Ross had referred to "intubation of the larynx," and associated Dr. Major's name therewith, he would make a few remarks with reference to a few of his more recent cases. He wished it understood that tubage had been resorted to by him in cases where all possibility of saving life was out of the question, and had been undertaken merely as a means of allaying the suffering produced by strangulation.

D. T. L., aged 5 years, was seen in consultation with Dr. Browne on June 8th, at 5 A. M. The breathing was most difficult, and suffocation was impending. An O'Dwyer's tube was introduced with instantaneous relief. The tube was removed on June 11th, at 9 P. M., when the breathing seemed quite satisfactory; at mid-night of same day, however, it was necessary again to return it, as dyspnoea with marked retraction supervened. The tube was permanently withdrawn at 3 P. M. on June 17th. On laryngoscopic examination, a slight abrasion of left ventricular band was noticed.

The foregoing case was one of inflammatory croup, and developed as alarming symptoms of suffocation as I have ever seen.

T. J., aged 3 years, also a case of catarrhal croup, was seen with Dr. Browne at 2 A. M., Saturday, Oct. 29th. The patient was in a very critical condition, and it was with difficulty that the tube was introduced in time to prevent a fatal issue. On introduction, however, the breathing was immediately relieved, and continued good until the morning of Wednesday, Nov. 2nd. On Thursday, Nov. 3rd, at noon I removed the tube and found it filled up with some material which, on examination by Dr. Wyatt Johnston and Dr. Ruttan, proved to be starch granules, caseine, epithelial scales, etc. The breathing improved at once, and continued in a satisfactory condition.

J. C., aged 5 years, was a case of diphtheria with laryngeal extension. On examination of larynx with laryngoscope, membrane was found there in

quantity. The difficulty in breathing was very great, when Dr. Geo. Ross requested intubation.

The tube was introduced at noon on Tuesday, Nov. 1st, it was removed at 3 P. M. on Sunday, Nov. 6th, but as dyspnoea became urgent it was reintroduced at 8 P. M. of same day. The child's breathing continued good until Thursday, Nov. 10th, when death resulted from sepsis.

On Sunday, Nov. 6th, Dr. George Ross desired that a child aged 6 years, suffering from diphtheria in the contagious wards of the Montreal General Hospital, should be intubated. As I was at the time possessed of but one set of O'Dwyer's instruments and tubes, I had not a tube suitable for the child's age, as it was already in use in the former case. On examining the larynx with the laryngoscope, I made sure that a smaller tube might be used with safety, as it would not pass into the trachea, although it probably would not be retained. The breathing was very much oppressed, and membrane was seen extending some way into the trachea. On intubating, the tube after a few minutes was coughed up, and with it a cast of the larynx and trachea. The breathing now became good, and recovery was rapid. This was only a fortunate accident attending the manipulation of tubing.

W. A., aged 18 months, was suffering from catarrhal croup, and was in a bad way on Monday, Nov. 14th, when Dr. R. P. Howard requested intubation. The tube was introduced at 3 p. m., and removed on Friday, Nov. 18th, at 1 p. m., when the necessity for a tube no longer existed. A good recovery resulted.

J. Q., aged 3 years, a patient of Dr. Guerin, was tubed Thursday, Nov. 17th, at 6 p. m. Pulmonary collapse was observed, and the tube removed on Sunday, Nov. 20th, at 6 p. m. The case terminated fatally the same night. The child was suffering from catarrhal croup; on examination of larynx, no membrane could be seen. The collapse probably antedated the tubage.

Hospital case, girl of 11½ years, suffering from a very malignant type of diphtheria, with excessive septic poisoning. The breathing was so very distressing that Dr. Geo. Ross requested intubation for its relief. The case was of an utterly hopeless nature. The tube was introduced at 9 p. m., Friday, Nov. 18th, and afforded instantaneous and marked relief. The child was enabled to lie down and sleep quietly, dying the following morning at 6 p. m., of sepsis.

Hospital case: J. C., aged 4 years, suffering from laryngeal diphtheria, was tubed at 4 a. m., Friday, Nov. 25th, and died at noon the day following. Probable cause of death extension of membrane into bronchi.

Intubation may be practised with one of two objects in view, viz., to save life or merely to relieve dyspnoea (when the saving of life is hopeless). Statistics endeavor to show the life-saving power as compared with tracheotomy, the comparison is certainly in favor of intubation. The measure of relief tubage affords in laryngeal stenosis from whatever cause, the readiness with which friends give consent, and the rapidity with which a tube can be inserted, are all points strong in favor of intubation. There are a number of conditions that should be well considered in tubing, and as one's experience extends the recognition of possible accidents increases. In tubing, if breathing is not satisfactorily restored within a few minutes, withdraw the tube, reintroduce it, and again withdraw it if necessary, reintroducing it; if the breathing is still imperfect, contemplate tracheotomy. The fear of forcing membrane down before the tube is one often urged, but is one of the accidents least likely to happen. Tubage does not interdict subsequent tracheotomy, and tubage is proportionately valuable, as it is performed early. Many cases of pulmonary collapse no doubt antedate the operation, and experience probably will prove that pulmonary collapse is one of the conditions most to be feared as likely to be attributed to the operation, and not to the state for the relief of which the intubation was undertaken.

Dr. REED suggested that the knee jerk be sought for in all cases, as involvement of the nervous system has been known to occur even when the throat trouble has been slight as to pass unheeded. According to Formad, bacteriology is insufficient to distinguish simple follicular tonsillitis from fatal cases, the same microbe having been found in both.

Dr. McCONNELL stated that although the health department were not entitled to much credit for the part they have taken towards staying the present epidemic, yet, in view of the multiplicity of views held in regard to the etiology of the disease and its management, some allowance might be made for failure in making specific efforts towards its arrest if some of the ordinary sanitary requirements of the city were not so sadly neglected. He believed it to be a parasitic disease (Zoeffer's bacillus, probably),

and hence amenable to all means which are known to destroy them or prevent their development. If this view was more generally adopted, our management and treatment of these cases would have a more definite aim and be applied more intelligently. He thought it unfortunate that Jacobi, in a standard modern work like Pepper's, should not countenance this origin for diphtheria, as it explains satisfactorily the chief feature of the disease. From his observations he believed it to be at first a local disease; the growth in the mucous or abraded surface resembling perfectly culture tube-growths of bacillus, etc., precedes constitutional symptoms, and the latter disappear when the surfaces are free from the membrane. This was well seen in a child of 3 years now under treatment for the fourth attack; he had recovered from the third but four or five days. Pharynx clear and no fever, when he used a piece of gum that a sister, suffering from the disease, had been masticating; in five or six hours after a fresh patch appeared on the tonsil, and there was a return of pyrexia. Each of the other members of this family had had the disease twice, showing a family predisposition. He treated his cases with germicides, using acid sulphurous, boric acid, liq. ferri mur. internally, and corrosive chloride with atomizer, and the air of the room saturated with vapor from boiling water, on which was kept constantly a quantity of equal parts of carbolic acid and turpentine. If pathogenic bacilli were the cause to prevent their development, the remedy should be brought into contact with the rapidly-growing patch almost constantly, hence atomizer and internal mixture (whose action is chiefly local) should be alternated every fifteen minutes or half hour. This had given most satisfactory results. A case of laryngeal diphtheria had recovered under the use of Lq. Bichlor internally and the antiseptic inhalations already mentioned.

Dr. ARMSTRONG, in reply, said: I think it is generally agreed that a healthy nasal and pharyngeal mucous membrane is protective against the poison of diphtheria. Unfortunately, in our climate perfectly healthy noses and throats are not too commonly met with. The great objection to the idea of Prof. Hughlings Jackson mentioned by Prof. Mills is that ant. pol. myelitis is essentially an incurable disease, and the paralysis of diphtheria nearly always gets well. I am glad Dr. Ross still finds reason to hold the views he has expressed in regard to diagnosis. The cause I purpose

avoided in my paper. It is a large subject. The plumbing of Montreal is bad—very bad, and the Board of Health deserve the same qualifying adjectives. They are nearly useless. I am willing to do all in my power to improve things, but under the present regime at the City Hall I am afraid that all our efforts intelligently put forth would avail little or nothing.

Progress of Science.

KNEELING POSTURE IN PROTRACTED LABOR.

Dr. Edwin M. Hale, Chicago, in *Journal of Obstetric*:

Mrs. J., a short, fat woman; in her first labor, the progress was very slow and painful. The pains had lasted twenty-four hours before the os had dilated sufficient for the head to descend. But it did not descend, nor did progress beyond that stage, notwithstanding the use of the hot sitz bath the douche, caulophyllin and cimicifuga. I wasted six hours, the soft parts became hot and swollen, and the woman showed signs of severe exhaustion. The long forceps were applied, but my strength was not sufficient to move the head. I called on Dr. George A. Hall, who used another kind of forceps and succeeded, after nearly an hour of forcible traction, with the aid of an assistant. The perineum was badly ruptured; was sewed up immediately, and the patient made a good recovery.

Three years after, the same history was repeated.

Four years later the woman was again taken in labor. The os rapidly dilated, but the head became impacted at the same spot. It occurred to me to suggest to the patient to kneel down by the bed. After assuming this posture the pains immediately became more violent and expulsive. She did not have more than six or seven before; placing my hand on the perineum I found it was rapidly descending, another pain expelled the child. There was no rupture of the perineum; recovery rapid. If she had assumed this posture with her first labor, would the child have been born naturally?

I think not, owing to her peculiar physical conformation.

With the second child, the result of the kneeling posture might have been successful. In a fourth

labor she assumed the kneeling position, at about the same stage of labor, and the child was born before any physician could be procured. I have often seen protracted labors rapidly terminated by the same procedure.

One of the most plausible explanations of labor in the second stage is given by Lusk. "It is either due to exhausted nerve power, or excessive uterine retraction; in the latter case the withdrawal upward of the uterine muscle and the consequent lessening of the intrauterine pressure." He quotes Hofmeier, who reports a number of instances when the head rested on the pelvic floor, that the ring of Bande, which was made and by palpation through the abdominal parietes, was situated at from five to seven inches above the symphysis pubis, so that the contractile portion of the uterus covered not more than one-third of the foetus. Under such circumstances, while the patient suffers from intense pain, the contractions of the partially emptied uterus do not possess the force to overcome the resistance of the rigid perineum. I have observed several instances of this kind, when the kneeling posture caused the retraction to give way.

But in the case of Mrs. J. and some others, this could not have been the condition present, unless the contraction with retraction of the uterus occurred at an earlier stage, for the head had not descended sufficiently to press on the perineum. While the presentation appeared normal, the head did not descend; there was no flexion. Perhaps this non-flexion was the cause of the arrest of labor. But why does the head not flex? I believe it is because the expulsive force is not applied in the proper direction. Nor can it be applied while the woman is in any other position than kneeling with the body bent forward. One peculiar symptom observed in these cases is, that the vagina, which, previous to arrest of labor, seemed open enough—soon after the descent of the head was arrested, appeared to "fill up," and the head actually seemed higher than before. This would imply that the so-called "tonic retraction" may occur before the head reaches the floor of the pelvis.

Patients delivered in this position usually kneel on a pillow, with the knees apart, and the arms upon a chair, bed or lap of an attendant. The physician takes his seat on a low ottoman on her left side, and placing his hand on the perineum, watches for the descent of the head. There is no fear of the

child being precipitated from a height with injury to itself or its mother. The space between the uterus and the pillow upon which the patient kneels is so small that the head of the foetus is arrested before the whole of the body is expelled, and the average length of the funis is sufficient to prevent it dragging down the placenta or uterus, even if the accoucheur did not attend to the taking of the child. The posture is strictly scientific, for when the woman is thus placed the outlet of the pelvis rests perpendicular and the greatest gravitational influence of the foetal head is secured. More than this, the expulsive efforts of the woman can be exerted with far greater force and ease than in any other position.

As the trunk of the woman is bent forward, the propelling force of the abdominal muscles are exerted at a proper angle, to best insure flexion of the foetus through the curve of the genital canal.

If accoucheurs will carefully consider the many mechanical reasons for the use of this position during the second stage of labor, they can not fail to be convinced of its utility. It certainly ought to be tried in all cases of lingering labor in the second stage before we resort to the forceps.

THE CANADA MEDICAL RECORD.

A Monthly Journal of Medicine and Surgery.

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QUACK ADVERTISEMENTS IN RELIGIOUS NEWSPAPERS.

We thoroughly endorse the following which appeared in the *Philadelphia Medical and Surgical Reporter* of Dec. 31st, 1887.

"From time to time medical men and medical

journals have protested against the prostitution of the columns of religious newspapers to the use of advertisers of quack nostrums. This protest does not apply to temperately worded representations of what seems to have been accomplished by, or what may reasonably be expected of, a remedy or device for the cure of disease or injury. But it does apply to advertisements couched in language which bears the stamp of falsehood on its face, or which is of such a character as to arouse suspicion in the mind of an intelligent man, uninfluenced by a money consideration.

The editors of the most religious journals are, as a rule, men of so much intelligence that they will hardly attribute to trade-jealousy alone the objection which medical men have to the recommendations of "sure cures" for baldness, fits, rupture, consumption, and so on, to persons who are apt to regard their religious teachers as safe guides in matters of health or disease; and who are not sufficiently familiar with the subtleties of the newspaper business to distinguish between the responsibilities of the editor and those of the publisher. As a fact most readers of periodicals have the impression that the advertisements they contain are endorsed by the editor. Advertisers rely upon this fact; and we cannot understand the casuistry which satisfies the conscience of a man who edits a periodical ostensibly devoted to religion, which replenishes its coffers with the price of palpable falsehoods.

If it were true that a religious paper could not be financially successful without taking money for the advertisements of worthless or delusive remedies, a course might be suggested worthy of the main object of these papers. But it is not true; for there are a few happy illustrations of the fact that, even in a religious newspaper, "honesty is the best policy."

We call the attention of our large circle of readers to this matter, in the hope that they will use their influence to put an end to what we regard as a serious blemish in religious newspapers, and one which injures the good reputation which they ought to enjoy. And we call the attention of those religious newspapers to which our remarks may apply to this matter, in the hope that we shall not have to recur to in a more explicit manner.

FECAL ANEMIA.

The *New York Medical Record* says:—

This is a title of a paper read recently by Sir Andrew Clark before one of the London societies. The essential ideas expressed were not new, but their grouping was somewhat novel. Under the heading of fecal anæmia, the writer discussed the question of anæmia occurring in young girls about the time of the establishment of menstruation. We have usually been taught to regard these blood-changes as due to the very systemic disturbance incident to the inauguration of a new and most important function. We have recognized the exciting causes as well. On these general grounds we have been content to let the matter rest. Sir Andrew Clark takes up one aspect of the case, and elaborates therefrom a novel and highly probable theory. He alludes to the profound mental and emotional changes occurring in the female sex at the time of puberty. The young girl, who has been only a creature full of mere animal spirits, becomes shy and retiring. Questions of personal physiology force themselves upon her. She shrinks from the contemplation even of matters relating to the hygiene of the pelvic organs, much more from their performance. The importance of regular evacuations is not recognized, and, unless friendly maternal counsel is at hand, she speedily becomes the victim of obstinate constipation. However great the bodily discomfort therefrom may be, she suffers in silence, not daring to ask for relief. As a result of this perversion, or, rather, abeyance of function, the system speedily becomes clogged, effete materials accumulate in the bowels, and there remaining they undergo chemical change. Poisons of the ptomaine and leukomaine classes are formed. These are absorbed into the circulation, and set up a form of systemic infection. This runs a slow chronic course, evincing its presence in the usual clinical picture of paleness, headache, dyspnoea, palpitation, dyspepsia, and the other customary features of anæmia. The old idea made constipation simply one feature of its condition; the new makes it the direct cause. Of course all cases of anæmia cannot be brought under this category, nor does Sir Andrew Clark make any such claim. Experience shows, however, the correctness of his views in a large proportion of cases. The marked relief that follows from a thorough cleaning out of the bowel is a matter too well known for more than mention. It ensues even before any

blood-forming tonics are given, and often the patient seems to improve about as rapidly without as with the latter. The constant absorption of poison being checked, nature regains the upper hand, and the vital machinery once more runs smoothly.

It is in such cases as these that excellent results have been obtained by the use of cascara. This drug is distinctly a tonic-laxative, of which the dose can be gradually reduced instead of increased, as is usually the case with laxatives. It restores the normal vitality of the muscular fibre of the gut, exhausted by over distention.

TURPENTINE IN DIPHTHERIA.

A recent number of the *New York Medical Record* says:—

We have, on several occasions, referred to the use of turpentine in diphtheria. Recommended originally in Germany, and claimed to be almost a specific, it was there, also, that the employment of the drug was subjected to the most severe criticism. Some recent publications have again drawn attention to the alleged value of this substance, and most remarkable among these is an article by Dr. Roese, which appeared in the *Therapeutische Monatshefte*. The author asserts that he has employed turpentine in diphtheria for the past four years. In that time he lost only five cases out of sixty that came under treatment. Two of the fatal cases concerned infants one year old, who appeared moribund when first seen, and died a few hours later. The other fatal cases were also unusually severe from the start, two dying in thirty-six hours, and one surviving five days. This is certainly a noteworthy record, as diphtheria statistics go.

The oil of turpentine was administered in drachm doses, three times a day. Sweet spirits of nitre was used as a corrective, in the proportion of one part of the spirits to of fifteen of the turpentine. Symptoms of intoxication were never observed by the author. In addition to the turpentine, a two per cent. solution of sodium salicylate was given every two hours, in tablespoonful doses. A gargle of chlorate of potash solution was likewise employed whenever possible. Under this plan of treatment rapid amelioration of local signs and constitutional symptoms was observed.

Usually improvement began at once, and it was rarely necessary to push the drug beyond five or eight doses. It should be remarked in this connection, however, that a very generous and stimulating fluid diet (strong broth, port wine, milk, etc.) formed a feature of Dr. Roese's plan of treatment.

Those who are inclined to be sceptical with regard to the utility of medicines in the severer forms of diphtheria (and the profession contains many such) will scarcely accept the author's figures without challenge. On the other hand, for the very reason that violent diphtheria ordinarily justifies so gloomy a prognosis, we are ever ready to employ any means at our command which may possibly reduce its frightful mortality. There is no reason, therefore, why the turpentine treatment of this disease should not be given a fair trial.

ANTISEPSIS IN MEDICINE.

In a late number of the *Dublin Medical Press*, there is an article by Drs. Casson and Brownen, drawing attention to the fact that in the treatment of infectious diseases, the remedies employed for the protection of attendants or for the prevention of the spread of infection may produce beneficial results in the condition of the patients themselves. They say that iodine, slowly evaporated, might prove a useful adjunct to other means of treatment. According to Koch, the only *effective* disinfectants, besides chlorine, bromine, and iodine, are corrosive sublimate, osmic acid, and potassic permanganate. They necessarily exclude the mercurial sublimate from consideration. "Valuable, perhaps the most valuable, as it is among antiseptics for local surgical application, its highly poisonous character forbids its employment as a general medical disinfectant." Osmic acid and bromine are too expensive, and the offensive odor of the latter is against its employment. Chlorine is objectionable from the disagreeable pungency of its vapor. The potassic permanganate is comparatively valueless unless employed in considerable strength. Iodine, however, presents none of these disadvantages. It has long been recognized by all authorities as a true germicide disinfectant. They point out that its employment as a general disinfectant has been greatly lessened, owing to the difficulties experienced in its regular and gradual vaporization. Combined, however, with salicylic acid, they find that "it can be readily and permanently incorporated with fats, paraffins, or wax,

and when candles made from these hydrocarbons thus treated are ignited, iodine and phenol are evolved in a gaseous vaporized form. The phenol is produced by the decomposition of the salicylic acid, and its amount varies according to the temperature or rate of the combustion. Its presence, may be verified by passing the vapors of the combustion through dilute nitric acid, and thus producing trinitrophenol or picric acid. But where the combustion is rapid and complete the phenol is entirely destroyed, as all other *organic* materials such as eucalyptus, which has been suggested for somewhat similar treatment, must necessarily be. It is not so, however, with regard to the iodine. Being *inorganic*, it is wholly volatilized and thrown out as vapor into the surrounding atmosphere, but it is in no sense destroyed. Its presence in the gaseous products of the combustion may be demonstrated by passing them through a solution of starch, or along a tube moistened with starch mucilage. In either case the iodide of starch is speedily produced, and may be recognized by the usual tests. A very faint odor of iodine may be detected when these candles had been burnt in quantity in a close atmosphere; but this is never unpleasant, or in the least degree irritable to breathe; indeed, in several cases of asthma, spasmodic cough, and 'hay catarrh,' the patients have experienced great relief from the iodine vapor thus liberated. As a deodorizer its action is most marked; the smell of tobacco smoke is quickly and entirely destroyed by the combustion of these candles in the smoking room. The air of stuffy rooms and smelling closets may be rapidly purified by the same means. The odor of sulphuretted hydrogen and of ammoniacal air from a close stable have been very speedily and completely discharged by contact with the same vapor."

PERSONAL.

Dr. Rolland, of Montreal, Professor of diseases of the ear and throat in Victoria Medical Faculty, has been elected a member of the Otological and Laryngological Society of Paris.

We are pleased to learn that Dr. Robt. Howard of St. Johns is still improving in his general health, and that quite recently he saw a case in consultation with one of his confreres. This is the first professional work he has done in two years.

Dr. Bower, of Waddington, N. Y., was in Montreal recently.

THE TIME FOR THE ADMINISTRATION OF CERTAIN REMEDIES.

The late Sir Robert Christison, in his life-time Professor of Materia Medica in the University of Edinburgh, gave the following directions as regards the time at which certain remedies should be taken:

"Iodine and the iodides should be given on an empty stomach. If given during digestion, the acids and starch alter and weaken their action. Acids, as a rule, should be given between meals. Acids given before meals check the excessive secretion of the acids of the gastric juice. Irritating and poisonous drugs, such as salts of arsenic, copper, zinc and iron, should be given directly after meals. Oxide and nitrate of silver should be given after the process of digestion is ended; if given during or close after meals the chemicals destroy or impair their action. Potassium permanganate also should not be given until the process of digestion is ended; inasmuch as organic matter decomposes it and renders it inert. The active principle of the gastric juice is impaired and rendered inert by corrosive sublimate, tannin and pure alcohol; hence they should be given at the close of digestion. Malt extracts, cod liver oil, the phosphates, etc., should be given with or directly after food."

LISTER (SIR JOSEPH) ON VARICOCELE AND ITS TREATMENT.

I wish to impress this important fact upon you: do not think, because a man is discovered to have varicocele, that therefore it is your duty to subject him to an operation. The cases which call for operative interferences are few, and surgical measures employed under other circumstances are unjustifiable.

THE TREATMENT OF SICK-HEADACHE.

Dr. W. Gill Wylie of New York has produced excellent results with the following method of treatment: So soon as the first pain is felt, the patient is to take a pill, or capsule, containing one grain of inspissated ox-gall and one drop of oil of gaultheria, every hour until relief is felt, or until six have been taken. Dr. Wylie states that sick-headache as such is almost invariably cut short by this plan, although some pain of a neuralgic character remains in a few cases.

EARLY PATERNITY.

A correspondent of the *British Medical Journal* reports a well-authenticated case in which a boy thirteen years and four months old successfully impregnated a woman. The *Journal* states that the earliest case heretofore recorded of precocious puberty is that of a boy aged fourteen.

Cablegram, London, Oct. 25th.—W. R. Warner & Co., Phila., received highest award from American Exhibition in London for superiority of their sugar-coated Pills and Effervescing Salts.

NEW BUILT HOUSES.

A recent number of the *Dublin Medical Press* says:—

"A great many people could testify to the numerous ill-effects which follow residence in newly built houses before there has been time to get rid of the moisture contained in the walls. It has been estimated that a modern brick dwelling of medium size requires about ten thousand gallons of water for its construction, a large proportion of which is still present when building operations are completed. Nothing is more deceptive than the appearance of the walls within a month or two of their being coated with plaster. To the touch and sight they appear beautifully dry, but no sooner are fires lighted than the moisture, displaced by the warmth, deposits elsewhere and shows itself in patches of damp. Heat alone will not materially expedite the presence of dessication; free ventilation is even more essential. The evaporation of this moisture absorbs enough heat to keep down the temperature of the rooms, and inflicts positive injury on the tenants by provoking the reduction of heat. The effect of radiation, apart from mere temperature, is easily seen by the sense of coolness experienced on leaving a crowded room for an empty one, even when the actual temperature of the latter is not less than that of the former. Further, damp walls are better conductors of heat than dry walls, and subject the occupants to greater and more rapid changes of temperature. At the town of Basle, in Switzerland, a regulation has recently been put in force prohibiting the habitation of houses within four months of their completion, and it would be well if this provision could be extended to other places.