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Original Articles

THE DIAGNOSIS AND TREATMENT OF PRECANCEROUS LESIONS OF THE LOWER LIP

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The frequency of the occurrence of cancer of the lower lip and the importance of the recognition of malignant disease in the early stages of development makes the subject of this paper of great interest to the general practitioner. At the present time I feel that insufficient attention is given to the clinical study of cancer of the lower lip. My reason for this statement is the frequency in which patients with this malady fail to consult surgeons until the growth is in an advanced stage, with little chance of a permanent cure.

It may be stated that it is generally the fault of the patients; that the patients are usually informed of the condition long before they seek relief. This may be true, but I think that frequently general practitioners are not sufficiently emphatic in their advice to patients. They not infrequently exhibit an uncertainty about the diagnosis when the patient should be told that the condition is malignant, or if lesion is precancerous that it may lead to cancer.

There is another reason why patients do not seek early relief from cancer of the lip, and that is, that many patients are afraid of the "knife." This, according to my experience in practice, is very common. Many are willing to try any form of treatment other than that of removal by excision. Many of them try to obtain relief by the use of cancer pastes applied under the direction of some layman or laywoman. If this fails then later they may consult a surgeon.



This is about the condition of affairs at the present concerning the diagnosis and treatment of cancer of the lip. The question is: How are we to correct these mistakes? It is, no doubt, the duty of medical men to do everything in their power to diminish the mortality of cancer of the lip. Moreover, it is possible to greatly diminish the frequency of the disease; and it is also possible, I believe, to almost diminish the mortality of the disease to zero.

What should we do? The answer may be briefly stated as follows:—

- 1. General practitioners must be on the lookout to recognize precancerous lesions.
- 2. General practitioners should adopt measures to cure precancerous lesions as soon as detected.
- 3. Patients should be educated as to the nature of both the precancerous lesion and cancer. They should know that cancer in the very early stages is generally a curable disease.

In this paper the subject of precancerous lesions alone will be considered.

Microscopically there are at least four kinds of precancerous lesions of the lips:

- (1) Scaly localized hyperkeratosis.
- (2) Leucoplakia.
- (3) Fissure.
- (4) Cutaneous horn.

Scaly localized hyperkeratosis.—This is, according to my experience, by far the commonest precancerous lesion of the lip. In the majority of cases it is localized to one part of the lower lip; in a few it involves the whole length. Frequently there is a history of irritation of the part. In some of the cases the lesion is associated with the scaly and crusted patches on the skin known as senile warts; and both the microscopical and macroscopical appearances may be similar. Again, the characteristics of the lesion may be very similar to those of seborrhoeic dermatitis, and not infrequently the lesion on the lip is associated with seborrhoeic dermatitis on the scalp and other parts of the body. In my opinion, however, it is not in the great majority of cases a form of seborrhoeic dermatitis; for the reason that the lesion cannot, as a rule, be cured by the measures which invariably prove successful in seborrhoeic dermatitis. The latter disease may, however, be present on the lip.

In the treatment of these chronic lesions characterized by localized hyperkeratosis, it is a common mistake to attempt to cure them by soothing ointments such as cold cream. The lesion is deeply seated and if an ointment be used, a preparation with a keratolytic action should be selected. According to my experience ointments alone are of little value. An excellent method of treatment is to apply for about a half to one minute the solution of acid nitrate of mercury, and follow this by the application of an anodyne ointment of cocaine or orthoform of sufficient strength to prevent local distress. Physicians who have an X-ray outfit, or radium, may use with advantage these remedial agents. writer generally uses radium at the present. X-rays are also valuable but are not so easily made use of as radium.

I should like to draw the attention of surgeons to the importance of recognizing this type of precancerous lesions in their operations on the lip. If cancer develops on one of these scaly patches it only does so at one point, and in the treatment the surgeon should recognize the precancerous as well as the cancerous

lesion.

Leukoplakia.—This is a disease of the tongue and mucous membrane of the mouth and lips. It is characterized by whitish plaques which are, as a rule, very persistent. A luetic history is a predisposing cause, but the exciting agent is generally some form of irritation such as that produced by smoking. When the lesions first form they are, as a rule, smooth, almost imperceptible to the sense of touch. Later they may become thickened, which sign, in my opinion, may indicate that the lesion is becoming cancerous.

In the treatment one should first remove all sources of irri-The local treatment, when used, should be directed to Mild applications are absolutely useless. destroy the lesion. have successfully treated many cases by irradiation with radium

preceded by the application of acid nitrate of mercury.

Fissure.—This is generally of benign significance. Occasionally one obtains a history of fissure or sees the lesion in the early stage of cancer. It is a question, however, in these cases whether the fissure does not complicate cancer rather than be a precan-In some this is undoubtedly the case for the fissure cerous lesion. is in the centre of slightly elevated patches with signs of epithelioma.

In the treatment of fissure it is essential, if there is any suspicion of the beginning of cancer, the treatment should be thorough

ough.

Cutaneous horn.—This is not a rare condition of the lip and is prone to undergo malignant degeneration. When the base of the lesion is degenerating into an epithelioma there is evidence of thickening and infiltration of the horn around the border. In many cases it is difficult without microscopical examination to determine whether or not malignancy is present.

The treatment of cutaneous horn which I have found most successful is irradiation of the base with radium after removing the horny matter. Thorough cauterization of the base with the actual cautery or with a strong caustic would likely prove effective.

26 Gerrard St. E.

NOTE ON THE WOUNDS OF THE SOFT PARTS PRODUCED BY THE MODERN BULLET*

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Force.

The time seems to have arrived when an opinion may reasonably be expressed as to the so-called "humane" character of the pointed bullets employed in the present war. Before proceeding to this consideration the protest may be reiterated against the "pure sentiment" which has given rise to the employment of the word "humane" and led to international recrimination between parties who, while advocating the employment of a "humane bullet," do not hesitate to place their main hopes on the use of projectiles portions of which may cut off a head, an arm, or a leg, or lay open the major part of one or more of the great body cavities.

CHARACTERS OF THE WOUNDS.

The main characteristics of the wound produced by the modern pointed bullet depend on two factors—initial velocity of flight and instability of flight in the long axis of the projectile. Of these two factors the former is of comparatively small importance except in the increased capacity of the bullet to produce extensive comminution of the bones when they are struck at a right angle.

^{*} The Lancet, Dec. 12th, 1914.

In the instability of flight and the tendency of the bullet to revolve around a transverse axis, however, the travelling bullet is endowed with a capacity of wounding the soft parts to a degree which no form of expanding or soft-nosed bullet has exhibited before. A dum-dum or a soft-nosed bullet traversing the soft parts alone seldom acquires any deformation or increased wounding power, and, as far as my own experience of the dangers of the soft-nosed Mauser or Mannlicher bullet occasionally used by the Boers in the South African campaign went, I came to the conclusion that they were practically negligible.

On reviewing a long series of the bullet wounds observed during the last two months of the present campaign I have become more and more impressed with the gravity of a considerable proportion of the rifle and machine-gun wounds, which seem to me to correspond much more nearly with the experimental results obtained by von Fessler and others than with the reports furnished by many of the surgeons working during the Balkan campaign, the majority of whom regarded the wounding power of the pointed bullet to be very similar to that of the older dome or ogival tipped bullets of small calibre. That the pointed bullet causes small, clean apertures of entry and exit when it strikes fairly at right angles, even when travelling at high degrees of velocity, there is no doubt. Such wounds are numerous, although in my experience the cases in which occurs perforation or division of small narrow structures such as the peripheral nerves and arteries are not so common as was the case in wounds produced by the Mauser or Lee-Metford bullet.1 Neither arterial hematomata nor aneurysmal varices have been frequently seen in the more serious cases reserved for treatment in France, although I am not in a position to know what may have been observed amongst the large number of less severe wounds transferred at once to England. The same remark applies to isolated injuries of individual peripheral nerves, while the larger area afforded by the brachial plexus has resulted in many paralysed arms complicating the very common wound from the base of the neck to the shoulder region, the result of the attitude so often assumed in the fighting during this campaign.

Allowing the capacity of the pointed bullet to produce the small apertures of entry and exit and the narrow intervening canal made by the older bullet, yet it is clear that as a cleanly perforating instrument it needs to strike with extreme accuracy and precision, and if this be not the case wounds of a vastly different character result. A slight inaccuracy of impact causing

¹ The Lancet, Dec. 20th, 1913, p. 1743.

only an unimportant increase (or none at all) of the aperture of entry, may result in the production of an "explosive" exit aperture of the extreme type when no bone has been touched and the resistance of the soft parts of the body is alone met with.

INSTABILITY OF FLIGHT OF THE POINTED BULLET.

That these wounds are not caused by bullets deformed by ricochet is obvious from the characters of the aperture of entry. On this point it may be added that seriously deformed bullets are seldom extracted, which may depend on the fact that in the recent fighting a large number of the deflected bullets have struck either trees or the soft earth at the margin of the trenches. The more serious ricochets, those from the walls of houses, have been far less abundant. Again, in any case the general outline of the bullet renders it more liable to deflection than to serious deformation unless it meets the opposing object at a very narrow angle.

The ease with which the pointed bullet may be deflected cannot be more aptly illustrated than by examining a number of cases of injury to the head and observing the very great preponderance of gutter wounds over that of tracks traversing the skull, which preponderance (if it existed), was certainly far smaller with the

older forms of bullet of small calibre.

The serious nature of the wounds limited to the soft parts can only be attributed to the fact that the instability of flight of the bullet in its long axis is so great that, unless impact with the body takes place by almost the exact tip, a rapid revolution of the bullet on its transverse axis occurs, so that the only slightly diminished force is exerted by the whole lateral area of the bullet on the tissues in the distal portion of the canal and the aperture of exit. If the "remaining velocity" is great this half turn only is probably made; if less the revolution may be complete or even repeated; if the bullet is nearly "spent" it is often retained in a reversed position. The latter is often the case with retained bullets, or their position may be vertical to the course of the wound. The soldiers assert that the enemy sometimes draw out the bullet and reverse its position before firing the cartridge, but even if this be the case it is difficult to believe either that the bullet would travel properly, or that it could account for the many cases of reversed retained bullets met with.

ILLUSTRATIVE EXAMPLES.

Evidence of this instability of flight is offered by the appearance of some of the entry wounds; thus, rarely wounds are seen

of the same outline as the lateral surface of the bullet. other hand, the oval wound or the partial gutter leading to a penetrating wound often observed in the case of oblique impact in the case of the older bullets is rare and never well marked. aperture of entry is rather only slightly enlarged, with merely slight bevelling in one half of its circumference and undercutting at the other. The aperture of exit, on the other hand, is very large, in the case of wounds of the soft parts often oval, and less commonly stellate than when the bones have been implicated. place of a small tag of subcutaneous tissue in the opening a mass of the brush-like ends of torn muscle and other soft tissues pro-Such wounds are seen in the extremities without any evidence of implication of the bones. Very striking instances are seen in the abdomen, thus, (1) a normal small entry wound in the right loin, with a vertically oval wound of the anterior abdominal wall four inches in length, the floor of which was formed by the ascending colon, from which faeces were escaping; (2) a normal entry wound over the ascending colon with an oval exit in the right loin, 3 inches by 2, from which urine escaped and extravasated under the skin of the back; (3) a similar wound entering over the descending colon, with exit in the left loin (in this instance the main urinary extravasation followed the line of the ureter into the pelvis); and (4) entry in the anterior abdominal wall, exit in the left loin, with protrusion of a piece of omentum six inches long.

Wounds implicating the thorax scarcely come into the same category, since the presence of a rib at the distal end of the track offers a bony resistance, yet the large valvular openings allowing the free exit of blood and ingress of air which are so often seen

were certainly rare in the case of the older bullets.

The chief novelty of the last weeks has been the arrival of men wounded by the modern "hand grenade," which, however, appears to cause more damage to the trench than its occupants.

SOME EXPERIENCES OF SHELL WOUNDS IN THE PRESENT WAR *

By A. W. Sheen, M.S. Lond., F.R.C.S. Eng.
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Commanding Welsh Hospital, Netley.

It takes but little experience of shrapnel and other shell wounds, which, when they get to hospital, are almost always infected, to realize that the best thing to do is to leave them alone—that all aggressive surgery is a mistake, that foreign bodies per se do no harm, and that the laying open of fresh tissue areas is to be avoided. Amputations are unwise, simple removal of any nearly dissociated parts being sufficient, even if ends of bone are left protruding. If a previous formal amputation has been performed there is almost always free suppuration and flap retraction, with the necessity for reamputation later.

The best treatment is the boracic fomentation assiduously and properly applied; the lint should be wrung as dry as possible out of really boiling water, put on in at least two layers amply covering the wound and adjacent parts, well overlapped in its turn by the mackintosh, fixed so as to avoid displacement and permit of easy changing, and changed as often as every two hours in badly infected cases. There is no particular virtue in the boracic acid,

but the pink color of the lint emphasises its special use.

Where there is a wide wound, locally very foul, but with no spreading or general infection antiseptic sawdust¹ is a good dressing. When leaning over the bandage and smelling there is not the offensive odor of other dressings, but only a fragrant smell. The sawdust is best applied over a single layer of sterile gauze laid across the wound. The corners of the gauze are then brought over the sawdust. The dressing should be changed at least twice daily. "Pinus sylvestris medicatrix" is an impressive name for the soldier. The use of gauze plugs, sterile or medicated, is wrong; they become intensely foul, and cork up discharge. Drainage-tubes are only very occasionally necessary.

The employment of congestive treatment other than the fomentations—Bier's bandage or Bier's cup—should follow the usual

^{*} The Lancet, January 2nd, 1915.

¹Prepared according to Mr. Rushton Parkers formula by Messrs, Sumner and Co., Liverpool. (See Brit. Med. Jour., Oct. 31st, 1914.)

principles of dealing with infected wounds. A high value is placed nowadays on peroxide of hydrogen, but I cannot satisfy myself that it has any special usefulness in these cases. It is very difficult to estimate the value of medications applied to wounds in removing infection and hastening repair, for cleansing and healing usually take place rapidly under congestion and natural processes.

Granulating and mildly infected wounds do well under sterile gauze wrung out of warm "parabolic" applied twice daily. Sterile wounds require a dab of tineture of iodine and a pad of sterile gauze daily or less often. Occasionally an obvious abscess requires opening, an ill-draining sinus enlarging, or a cellulitis incising. In the absence of constitutional disturbance it is well to wait for definite evidence of these conditions. Doubtful spots should not

be incised if the temperature is normal.

The best procedure in ward dressings is as follows. The "dresser" wears rubber gloves throughout, the lotion is warm "parabolic" 1 in 40, parabolic being one of the British equivalents of the German lysol. Between each dressing the gloved hands are washed in soap and water and rubbed with the lotion. Wool dabs are used in the lotion, gloved hands rinsed in it, and instruments kept in it. The whole process is simple and expeditions. Bare hands get infected and infect clean cases. Fresh rubber gloves for each case are unnecessarily time-consuming and costly. To use sterilized gauze for mops in these infected cases is unnecessary.

The prolonged hot iodine bath for limbs is very useful; three or four hours at a time alternating with the fomentations. Whilst in the bath the patients are encouraged in the use of muscles and joints.

I am accustomed to say in speaking of limb injuries "Do not think of the wound, think of the limb below it. Endeavor to minimize the crop of cripples which this war will bring forth." Everything possible must be done to prevent stiff joints, atrophied, paralyzed, glued-together muscles, lengthened tendons, loss of grasp, dropped hands, and dropped feet. Later we shall have war hospitals which by electricity, by massage, by hot-air baths and by mechanical and surgical methods are endeavoring to cure what might have been in many instances prevented by carrying on side by side with the wound treatment, treatment calculated to restore the usefulness of the limb.

The patients must be stood over at the time of their dressings and carefully and methodically put through different movements and exercises. With the arm, for example, the patient is told to

use every endeavor to make this or that movement, to make finger meet thumb, to flex and extend the wrist, to pronate and supinate, to grasp, to separate and close together the fingers. It is explained to the patient that all this painful exertion is for his own good, and to give him a useful limb later.

Splints should be designed to keep a limb in its most useful position and to prevent tendons lengthening. In wrist drop, for example, arm splints are prolonged by a piece attached at an angle which dorsiflexes the palm, leaving the fingers free. The arm extension splints of Borchgrewink, for my knowledge of which I am indebted to Mr. E. W. Hey Groves, of Bristol, are occasionally useful, but it is difficult to apply the extension strapping in the presence of a septic wound.

Shell fragments require removal when infection in the wound has practically ceased, or if it is obviously the fragment which is keeping up the infection. They will not usually remain in permanently, wounds which have apparently healed breaking down again. Not infrequently a bit of clothing comes out with the fragment. Although the nearness to the skin of the missile in deep injuries may sometimes be due to its "working its way out," yet I think there is a condition which may be called "shrapnel recoil," the missile hitting bone and then springing back. In an officer hit by a fragment of shell, which went through the temporal muscle and completely fractured the temporal bone, the X-ray and operation showed the fragment close under the skin near the entrance wound.

Head wounds should not be left alone in the same way as others, as South African experience taught; they should, except in obviously trivial superficial injuries, be explored, as there may be deep damage to bone or brain, although no definite immediate

symptoms are present.

The rule at this hospital is that every infected gunshot wound of less than ten days' duration which has not yet had a prophylactic injection of tetanus antitoxin shall have one. So far there has been no case of tetanus, but I heard that the British army had passed out of the "tetanic belt"—i.e., the richly manured soil area—before this hospital began to receive patients. The bacteriological investigation of all septic wounds admitted has been carried out by my colleague, Lieutenant B. G. Klein, R.A.M.C. All the shell wounds have been infected, many of them badly, and having a very foul odor. The predominant organism is a streptococcus, mixed often with anaerobic bacilli. Stock serum and

autogenous vaccines have been used with apparent benefit in some cases.

X-rays are used in all cases, even where entrance and exit wounds show that the projectile has passed through, for shell fragments or foreign bodies carried in may be left behind or there may be unsuspected bone damage. An officer who showed shrapnel entrance and exit wounds subsequently had removed from his leg a portion of the buckle of a leather gaiter. The cross-thread localizing apparatus is too tedious and tiresome for ordinary use; I wonder to what extent it is used in war hospitals that have provided themselves with it. Localization is usually adequately obtained by photographs in two planes. The telephone probe forceps

as modified by me has proved occasionally useful.2

A detailed clinical history ascertained by a series of routine questions is of value in revealing unsuspected details and for collective investigation of cases. The length of the missile track is measured by a pair of obstetric calipers. Without careful investigation a third wound, and so a lodged missile, may be missed. A man had entrance and exit wounds on the inner side of the right thigh; he said that he had been told in another hospital that there was no bullet in him. There was tenderness in the right side of the scrotum and a tiny wound at its posterior part; a deformed bullet was extracted anteriorly under local anæsthesia. Convenient terms for different wounds are: "gutter wound," "subcutaneous channel wound," "traversing wound," "double traversing wound," and "lodging wound." A rough drawing, or the marking of wounds on a clinical diagram, adds much to the value of the description of a case.

Arm wounds are common. The men are hit in the trenches, where only the arms and head are exposed. The head wounds are often fatal; hence the frequency of arm wounds. Compound comminuted fractures of the humerus are frequent. Leg wounds are often inflicted when running: they are occasionally across both thighs, and may involve the scrotum; the sciatic nerve is sometimes bruised, producing dropped foot or sciatic neuritis. All the many complications of severe head injuries are observed. Superficial wounds of the head may produce unconsciousness lasting for several hours. Temporary loss of speech and hearing lasting several days may follow a shell explosion near the patient.

With penetrating chest wounds pyopneumothorax occurs. No penetrating abdominal wounds by shell have so far reached this hospital; such injuries are probably usually fatal.

² Journal of the Royal Army Medical Corps, April, 1905.



Typical skiagrams are appended. They were taken in the X-ray department by Lieutenant Klein. (See Lancet.)

The following case of traumatic aneurysm is of special interest.

Shell wound of calf; fragment in medullary cavity of tibia;

traumatic aneurysm.—The patient, a sapper (R.E.), was wounded on October 18th by a shell bursting near him. His own field dressing was applied within five minutes. He was admitted to the Welsh Hospital on November 8th, three weeks after his injury. In the upper part of the right calf was a large pulsating swelling with thrill and bruit; there was no pulse in the posterior fibial at the ankle; the foot was somewhat cold and pale. Antero-posterior and lateral skiagrams showed shell fragments apparently in the

medullary cavity of the tibia. Scar of entry wound seen.

Operation was proceeded with on November 13th (tourniquet). The aneutysm was laid open by a long vertical incision through the calf muscles. It was found that both the posterior tibial artery and vein were wounded; a number of branches and tributaries had to be tied which occur in this situation. A long length of the posterior tibial nerve was held on one side to safeguard it. A hole in the tibia was enlarged and the shell fragments found free in the medulla one and a half inches below point of bone entrance. The wound was closed with drainage and it healed aseptically, the man leaving the hospital on sick furlough on December 14th, recovered except for slight weakness of leg.

I am indebted to my colleagues, Lieutenants F. Armstrong. J. S. Rowlands and T. Garfield Evans for their careful observation of cases which has helped in the preparation of this paper.

Netley.

MEDICAL NOTES ON ENGLAND AT WAR

BY SIR WILLIAM OSLER, OXFORD, ENGLAND.

To the Editor.—I dare say my many friends in the United States and Canada would like to have a few notes on my recent experience during these busy months.

It has been an extraordinarily interesting sight to watch the transformation of a peaceful commercial country into an armed camp. As regards soldiers, four months ago England was in the same blissful condition as the United States. One knew there was an army, but a soldier was never seen. To-day khaki is the "only wear," and there are more than 1,000,000 in training, and some 300,000 at the front-a larger expeditionary force than England has ever had on the Continent. And there is a fine spirit abroad. Everyone is working, the Irish question is dead, an intense pride has been raised in the army, there is every confidence in the navy. At the first blush it really looks as if war were a good thing, a fine tonic to the country at large; but behind all this is the tragedy of the shambles at the front, and the hospitals are full of poor fellows battered and shattered, so that one has not to go far to realize the truth of Sherman's famous words that "War is Hell."

For the medical work England was not wholly unprepared. The lessons of the South African War sank deeply and gave a good many men now in the prime of life a most helpful experience. Then in the reorganization of the territorial army five or six years ago the country was divided into military districts, in each one of which a base hospital was organized. Thus Sir Alfred Keogh, the Director-General, and Colonel James came here, met the profession, explained the details of the reorganization, and left the matter in the hands of a committee who nominated the staff, selected the buildings, and arranged for nurses. This was all on paper. but the skeleton was laid down, and the large examination schools selected as the hospital. The plans for the alterations had been prepared, and life had been kept in the organization by an annual meeting. And so it turned out that within two weeks after the order for mobilization, Colonel Ranking, the administrator, had the schools ready for a hospital of nearly 500 beds, and a staff

^{*} Correspondence to J. A. M. A.

organized. The same has taken place in the other centres throughout the country, so that ample accommodation was provided, both for the sick among the territorials and Kitchener's new army, and for the wounded who soon began gradually to be sent back from the front. At present in Oxford there are nearly 1,000 beds available, as the town hall and the workhouse have been added and about eighty beds provided at the Radcliffe Infirmary. Up to date, between 2,000 and 3,000 wounded have been treated.

Private enterprise has also furnished excellent hospitals. The Committee of American Ladies in London has opened the American Hospital at Paignton, near Torquay in Devonshire, in the splendid house handed over to it by Mr. Paris Singer. There are 200 beds, and an additional sixty beds will be provided. The work

is in charge of Dr. Beal, of the American Red Cross.

The Canadians resident in London have opened a hospital near Shorncliffe, which is in charge of Dr. Armour and myself, in a house provided by Sir Arthur and Lady Markham. The resident surgeons are Dr. Wallis, of Guelph, and Dr. Stewart, of Calgary. Miss Macmahon, of Toronto, formerly one of the assistant superintendents at the Johns Hopkins Hospital, is in charge with a group of Canadian nurses.

From the base hospital in Oxford the convalescents flow over to Blenheim Palace, the library of which has been converted into a ward for sixty patients, and to Lady Wantage's at Lochinge, and to Mr. Mortimer Singers' at Milton Hill. The latter is one of the most ideal hospitals I have ever seen. Mr. and Mrs. Singer were about to move into their newly arranged house, but have converted it into a hospital for 150 beds, and are providing everything for the comfort of the soldiers.

In Cambridge, Birmingham, Bristol and London large hospitals have been opened, and many of the Metropolitan hospitals have set aside a certain number of beds, so that one may say that the accommodation throughout the country, both as regards hospi-

tals and convalescent homes, is ample.

Altogether, the health of the troops in the training camps has been excellent, and, fortunately, until recently the weather has been good. Up to date there has been no typhoid to speak of. Inoculation is not compulsory, so that a number of us have been going about the camps lecturing to the men, the large majority of whom have readily submitted to inoculation. The country districts in England are singularly free from typhoid, so that there is not much risk of wide-spread epidemics in the camps, and in the British expeditionary forces there have been very few cases. There

has only been one case at Paignton, and only four or five here. I saw a couple in the hospitals at Brighton. In these first four months of the war we may say that typhoid has played no part. Major Russell's recent figures of the results of inoculation in the American army have been of great value in convincing officers of the value of the procedure.

The outstanding medical feature of the campaign in France and Belgium is that wounded, not sick, are sent from the front. So far, disease has played a very small part and the troops have had wonderful health, in spite of the exposure in the trenches. The damage has been from the pointed bullet, the round shrapnel bullet, and from fragments of the shrapnel case, and the severity of the wounds caused are in this order. From the military point of view, the modern bullet is not a very effective agent. At the right spot it kills; but it may pass harmlessly through head, chest or abdomen, and may splinter a bone without causing sepsis. orifices of entrance and exit are small, heal rapidly, and the high velocity appears to sterilize the tract. I have seen one case of bullet through the frontal lobes, four through the chest, and two through the abdomen without serious symptoms. The chest cases are of special interest, as one would not think it possible for a bullet to pass through pleura and lung without damage. At Paignton there have been three cases without pleurisy or hemothorax. In one the bullet entered the second right interspace, passed through the anterior mediastinum and the margin of the left lung and came out in the second interspace, about four inches from the left sternal border. Cough and hemoptysis followed, but the patient rapidly recovered. In another man the point of entrance was to the left of the nipple and the exit below the angle of the right scapula. He spat blood at first, but when I examined him about two weeks later there was no friction, flatness or effusion. A Belgian at Shorneliffe, wounded a week previously by a bullet through the right lung, had the same negative features. The patient in the next bed had hemothorax, with moderate fever, from a bullet which had passed through the right lung at the level of the fourth rib. When hemorrhage follows, there may be fever at first, though not necessarily, and if left alone, the symptoms subside, the clot organizes, the plasma is absorbed, and the affected side becomes immobile, with narrowed interspaces and even rapid contraction.

It would not seem possible that a bullet could go through the abdomen without doing any harm, but a Highlander at the base hospital, Oxford, had the wound of entrance about two inches to the left of the navel and the exit about three inches from the spine.

He had had no abdominal symptoms, but had a bad shrapnel wound of the leg. In another man at Paignton the bullet entered from behind, and the roentgenogram showed it not far from the navel. No symptoms followed. The modern rifle bullet may leave a clear wound which quickly scabs over and heals rapidly. A Belgian student at Shorncliffe had a bullet through the bridge of the nose -fortunately a good-sized one-with little or no damage except a frontal sinusitis. The round shrappel bullet does more harm. with a bigger orifice and a larger, and sometimes rugged, exit. This is an artillery war in which shrapnel does the damage, tearing flesh, breaking bones, and always causing jagged, irregular wounds. And here comes in the great tragedy—sensis everywhere. unavoidable sensis! The conditions on the battlefield have made it impossible always to give first aid, and within twelve and twentyfour hours the ragged open wounds have become infected from the clothing or the soil. The surgeons are back in the pre-Listerian days and have wards filled with septic wounds. I have seen sights that remind me of student days at the Montreal General Hospital when all the compound fractures suppurated, and we dressers really had to dress wounds. It may be possible to improve conditions, and already the transport of the wounded from the front has been hastened, and measures are being taken to provide simple antiseptics; but the wound of shell and shrappel is a terrible affair. and infection is well-nigh inevitable. It is surprising what may be done in some of the worst cases. Among the first batch of German wounded admitted to the Oxford base hospital was a man with high fever, right hemiplegia and aphasia. He had a large wound of the skull on the left side. I saw him with Mr. Whitelocke, as meningitis was feared, but after the wound was freely opened and a part of a bullet and a bit of his cap were removed. the temperature fell, the paralysis cleared, and he has made a complete recovery. An interesting point is the extent of suppurating surface that may exist without fever so long as free drainage It is, however, a slow tedious business, with a type of wound demanding much nursing and dressing. Two points then stand out prominently—the comparative mildness of the wounds of the high-velocity bullet, and the wide-spread prevalence of sepsis in the crusted and lacerated shrappel wounds.

Two other infections have caused trouble. The fighting has been in highly cultivated districts where the tetanus bacillus thrives, so that many cases have developed. At first there was not sufficient antitoxin, but now it is given at the front as early as possible. There have been only two deaths here among seven cases.

At Paignton two very severe cases recovered. The intrathecal method as warmly recommended by Park has been used. The other infection is more serious, an emphysematous wound gangrene, due to an anaerobic gas bacillus. It appears within the first four days of the injury and may prove rapidly fatal by sepsis. The emphysematous swelling, the spreading discoloration, gaseous discharge and terrible odor make the diagnosis casy. The phlegmon bacillus of Fränkel is a widely distributed organism, and infection probably comes from the soil.

There will be countless opportunities of studying lesions of the nervous system, particularly of the peripheral nerves. already seen several cases of severe neuritis of the type described in the monograph of Moorehouse, Mitchell and Keen, with great swelling. One patient at the American Hospital with a clean bullet wound high up on the inside of the arm has complete loss of power of the arm, with agonizing pain and great swelling. Later, it would be worth while for the government to concentrate these cases in one large hospital, as was done during the Civil War, and gave the authors just named their great opportunity. Perhaps the case that has interested me most was a paraplegia spastica cerebralis. The man, a private in the Lancashire Fusiliers, had a bullet wound at short range, which ploughed along the parting of his hair for about 3 inches, grooving the bone. It happened on September 13th, and he was unconscious for a time, had loss He gradually of power in the legs and was carried into the cart. recovered the use of his legs, but has developed a spastic gait, with great increase in the reflexes. Another point of interest is the paralysis of the flexors of the feet, with some wasting. This makes the gait very remarkable, a combination of the spastic and step-No doubt here there was a bilateral hemorrhage, and an anatomic condition similar to that which occurs in Little's disease.

At the Beechborough Hospital there was a remarkable spurious aneurysm, in a Belgian shot through the right check; the bullet passed through the mouth, under the jaw beneath the skin of the neck, and was just below the left elavicle. The cervical triangle was filled with a pulsating mass, without thrill or bruit. It appeared to be a traumatic aneurysm, but Dr. Armour removed the bullet, relieving the tension, and the pulsation has gradually disappeared. It was probably hematoma with communicated pulsation. At Paignton there was an arteriovenous aneurysm of the left brachial which seemed doing very well at first, but then began to increase rapidly, so that Dr. Beal did an Antyllus operation.

Considering the distance that the wounded men have had to travel; from the front to the clearing hospital, then by ambulance train to the base hospitals, by ship to one of the ports, then by train or motor ambulance to the general hospitals—well termed a via dolorosa—their condition has been remarkable. The mor-

tality has been everywhere very low.

I am sure your readers would like also to hear of the work which is being done to help our Belgian colleagues who have suffered so terribly. Within a week after the fall of Louvain one of the professors called and told such a sad story of their plight that we organized a university committee to offer hospitality to any who cared to accept, and my wife wrote at once to her friends in the United States asking for help. There are now sixteen Belgian professors here, with their families numbering nearly 100, for whom have been provided houses or lodgings, and who are given monthly grants for their support. The money for this has very largely come from our friends in the United States; and I would like here to express the indebtedness of the committee to Dr. J. William White, of Philadelphia, and to Mrs. Futcher, of Balti-The financial position has been greatly relieved by the kind offer of the Rockefeller Foundation to subsidize any science professors who wish to continue their work at English universities. The two most distinguished medical professors are Professor Denys, who is working in the laboratory here, and Professor Van Gehuchten in the Research Hospital at Cambridge, both from Louvain.

Oxford, December 4, 1914.

Dominion Abedical Abouthly

And Ontario Medical Journal

EDITED BY

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GEORGE ELLIOTT, MANAGING EDITOR.

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TORONTO, FEBRUARY, 1915

No. 2

COMMENT FROM MONTH TO MONTH

Relief of the Belgian Medical and Pharmaceutical Professions has been undertaken in Canada by the organization of the Canadian Central Executive Committee. The committee chosen is a representative one, but it is obvious to be workable the large majority of the members thereof must of necessity be chosen from the two professions in Toronto.

On other pages, our readers will find the particulars set forth with the names of the Chairman, Treasurer and Secretary.

In the medical profession Belgium had some 4,800 members, of whom something like 3,500 to 4,000 or more are said to be destitute. Not only are their homes gone, ransacked, plundered, burnt up, but their surgical instruments, etc., stolen or destroyed by the brutish soldiery of the enemy.

That the response to this urgent call will be a generous one, we have no doubt.

"The Lack of any Systematic Organization among the Medical Men of Canada" is a clause in the communication of the Secretary of the Committee, which may well be brought home to the hearts of the profession in Canada.

It is quite true we have many medical organizations in Canada, from the Canadian Medical Association and the Dominion Medical Council down, but the fact remains, as the Secretary states it, there is an absence of a systematic organization. If this is so, and it is quite easy to believe it so, then the sooner we set about setting our medical house in order, the better it will be for ourselves.

It is quite natural to turn to the national medical association at such a time, and ask the question: How was it, or is it, that the Canadian Medical Association was, not appealed to in this emergency? Can it be that the Canadian Medical Association is not sufficiently recognized abroad as the representative medical body of Canada?

Is it possible that we have too many medical bodies, and not enough cohesion amongst the profession in Canada as a whole?

It begins to look as though the Canadian Medical Association had not finished its work—complete re-organization, which was commenced at Halifax in 1905—a complete re-organization which still lags superfluous on the medical stage.

It is doubtful, however, if anything will ever be done towards "a systematic organization of the medical men of Canada," until a whole-time officer is at the helm.

Editorial Motes

CANADIAN CENTRAL EXECUTIVE COMMITTEE FOR THE RELIEF OF THE BELGIAN MEDICAL AND PHARMACEUTICAL **PROFESSIONS**

Editor, Dominion Medical Monthly, Toronto:

Dear Doctor,—The committee organized here for the purpose of raising funds for the distressed physicians and pharmacists of Belgium, has directed me to write each of the Canadian medical journals, setting forth what has already been done.

Following the experience of the Red Cross and the Patriotic Funds, it was felt best to have one Central Committee for Canada, with a small executive, composed largely of Toronto men, in order that meetings might be called with the least inconvenience. You

will find a list of the committee enclosed.

You will notice that the names of practically all the Presidents of the Provincial Councils are omitted; the reason being that we have as yet, been unable to obtain them. Such a list apparently does not exist in Toronto.

Circular letters have been sent out to about seventy-five presidents of medical societies throughout Canada—all of which it was possible to obtain record, asking that the president call a meeting of his society and organize in such a way, as to secure as large a response as possible from his district. The committee having this matter in hand have been greatly impressed with the lack of any systematic organization among the medical men of Canada. There is, apparently, absolutely no machinery through which they can be rapidly interested, in any matter of common interest or protection. We have been assured of the ready cooperation of the medical journals. This assistance is greatly welcomed, as being likely to interest a large community unable to be reached in any other way.

A copy of the circular issued is enclosed; you will notice the executive has been increased and otherwise altered since this was

printed.

Very sincerely,

WALTER MCKEOWN, Secretary.

Dear Doctor.—At the request of Sir Rickman Godlee, of London, a meeting was held and a Central Executive Committee for Canada appointed to undertake the raising of funds to assist the Belgian physicians and pharmacists who are in dire distress.

We will co-operate with Sir Rickman Godlee's Committee for Great Britain and Ireland, and the Committee in the United States

and other countries which are neutrals or allies in the war.

Our Committee considered the best way to get at the entire profession in Canada would be to have associated with us on this Committee the President of the Canadian Medical Association, and the Presidents of the various Provincial and County Medical Associations, as well as the Presidents of the Medical Societies in the various centres, and the Deans of the Medical Colleges throughout Canada, with the addition of representatives of the Canadian pharmaceutical profession.

That some immediate help is urgently needed will be made evident by reading the enclosed copy of a letter from Prof. Jacobs, the delegate from the Belgian Committee having similar aims. The Belgian Committee will act as the intermediaries through which the help will be sent, and are now despatching to Belgians in portable form, packets of medical and pharmaceutical material,

as well as surgical instruments.

This appeal for funds to the medical and pharmaceutical profession is to enable Belgian practitioners and pharmacists to carry on their work effectually, as soon as military and political circumstances will permit. Further money is required to help the refugee Belgian doctors in England, most of whom have nothing in this world left to them.

Will you undertake to arrange a meeting and the appointment of a Local Committee, at as early a date as possible, to raise subscriptions from the physicians and manufacturing and retail druggists in your locality. Subscriptions collected should be forwarded to the Hon. Treasurer of the Central Executive Committee, Dr. D. J. Gibb Wishart, 47 Grosvenor Street, Toronto.

Should circumstances not permit your active participation, may we ask that you so inform us at as early a date as possible. that we may appoint a substitute to undertake the work in your district.

Any amount that the doctors or druggists feel like contributing will be gratefully accepted. For your information we might say that many of the medical men here are contributing \$25.00, others \$5.00 and \$10,00, but any subscriptions of a smaller amount would be equally acceptable. As the need is urgent, we hope you will give this matter as early consideration as possible.

Yours sincerely,

H. A. BRUCE,

Chairman.

WALTER McKeown, Secretary.

EXECUTIVE COMMITTEE.

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R. E. McKechnie, President Canadian Medical Association.

James McArthur, President College of Physicians and Surgeons, Ontario.

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E. E. King, Editor Canadian Practitioner.

John Ferguson, Canada Lancet.

W. A. Young, Canadian Journal of Medicine and Surgery.

Geo. Elliott, Dominion Medical Monthly.

Andrew McPhail, Montreal Journal Can. Med. Assn.

Duncan Anderson, Public Health Journal.

CANADIAN MEDICAL ASSOCIATION MEETING, 1915

Arrangements for this meeting always involve an enormous amount of work and this year with war and hard times perhaps more than usual. Vancouver, however, is making splendid progress with the programme and, as far as the personnel of those taking part is concerned, is in no way behind former meetings.

For attendance British Columbia will, of course, have to depend upon the other provinces, but Vancouver offers so many

attractions that there should be no falling off there.

The Panama Exposition will bring a large number of visitors to the Coast this year and special rates are being arranged to

include both attractions at a very low figure.

The two symposia on "Chronic Arthritis" and "Chronic Infection of the Kidney" should afford most interesting discussions, and already a number of papers have been promised by leading physicians and surgeons.

In an early issue we hope to give the provisional programme. The date is fixed for July 7th, 8th and 9th and will come at a time when most people are thinking of holidays, and should be a good opportunity of combining pleasure and profit.

RELIEF BELGIAN MEDICAL AND PHARMACEUTICAL PROFESSIONS

Dr. H. A. Bruce, \$50; Dr. D. J. Gibb Wishart, \$50; Mr. P. C. Larkin, \$50; Dr. R. A. Reeve, \$25; Dr. K. McIlwraith, \$25; Dr. King Smith, \$10; Dr. Geo. Porter, \$5; Dr. Powell, \$10; Dr. C. A. Warren, \$5; Dr. W. H. Harris, \$25; Dr. R. C. Griffith, \$10; Dr. E. R. Frankish, \$5; Dr. E. R. Hooper, \$5; Dr. J. G. Caven, \$5; Dr. T. A. Davies, \$5; Dr. W. H. B. Aikins, \$25; Dr. Mortimer Lyon, \$5; Dr. Robert Home, \$5; Dr. E. A. P. Hardy, \$5; Dr. A. O. Hastings, \$15; Dr. G. P. Sylvester, \$5; Dr. Gordon Rice, \$5; Dr. Allan Baines, \$10; Dr. A. J. Johnston, \$5; Dr. B. E. McKenzie, \$10; Dr C. J. Currie, \$5; Dr. C. É. Treble, \$10; Dr. C. S. Hawkins, \$5; Dr. J. H. McConnell, \$15; Dr. F. A. Cleland, \$10; Dr. A. T. McNamara, \$5; Dr. W. J. Defries, \$5; Dr. G. H. Gardiner, \$5; Dr. C. W. Clendenan, \$5; Dr. S. Moore, \$5; Dr. J. R. Serson, \$5; Dr. W. A. Burr, \$1; Dr. J. W. Wigham, \$1; Dr. H. R. Holme, \$5; Dr. J. M. Cotton, \$25; Dr. W. A. Cerswell, \$5; Dr. H. J. Hamilton, \$25; Dr. R. T. Noble, \$15; Mrs. Mabel B. Irish, \$25; Mr. R. A. Thomas, \$10; Dr. W. A. Young, vaccine to the amount of \$100.

Reviews

Fever: Its Thermotaxis and Metabolism. By Isaac Ott, A.M., M.D., Philadelphia. Price, \$1.50. New York: Paul B. Hoeber.

This small book consists of three lectures delivered before the Sophomore Class of the Medico-Chirurgical College of Philadelphia. The author claims to have made a special study of the subject for forty-five years, as a practitioner of general medicine and a physiologist.

International Clinics. Edited by Henry W. Cattell, A.M., M.D. Volume IV. Twenty-fourth series, 1914. Philadelphia and London; J. B. Lippincott Company; Canadian Agent, Mr. Charles Roberts, 201 Unity Building, Montreal.

From the standpoint of Diagnosis and Treatment this is an excellent volume, there being no less than sixteen articles in this section. There are three in Medicine, seven in Surgery, two Medico-Legal and one on Medical Illustration. As usual there are many fine illustrations, several being in colors.

DOCTORS' OFFICE TO RENT

Any physician who is willing to share with other members of the profession, a private house on College Street (specially adapted for several doctors) within a block of Toronto General Hospital, may obtain full particulars by addressing the Editor of this journal. The only reason that there is a vacancy is owing to more than one of the former members having joined the colors.

Hews Items

Dr. R. W. Shaw, London, Ont., has been elected chairman of the Board of Education of that city.

Dr. Alex. McKay, Toronto, has been appointed Chief Medical Officer of the Toronto Board of Education.

Sir William Osler has tendered his services to aid the McGill Base Hospital which will go to the front in the spring.

The Ontario Medical Association meeting at Peterboro May 25th, 26th, 27th and 28th, 1915, should be kept in mind.

The Royal Victoria Hospital, Montreal, admitted 5,617 patients in 1914. There were 370 deaths. The cost of each patient was \$2.20 per day.

Dr. H. R. Casgrain, Windsor, Ont., a past president of the Ontario Medical Association, will accompany the second contingent in command of a Field Hospital.

Dr. George R. McDonagh, Toronto, has gone on his annual trip to southern climes. During his absence this season his office is being kept open and patients attended to by Dr. Edmund Boyd.

The resignation of Dr. Hutchinson, medical officer of Health. London, Ont., is announced. Dr. J. W. S. McCullough, of the Provincial Board of Health, has conducted an inquiry which has been laid before the Provincial Secretary, the Hon. Mr. Hanna.

Dr. R. W. Bell, of the Ontario Board of Health, at the request of the Indian Department at Ottawa, recently conducted an investigation into the smallpox outbreak on the Indian Reservation on the Grand River at Brantford. He found over sixty cases, and recommends a general vaccination of the 47,000 inhabitants of the Reservation.

Dr. Andrew Hunter has been appointed to the chair of pathological chemistry in the University of Toronto, in succession to Professor J. B. Leathes who resigned some months ago and went to Sheffield University, England. Dr. Hunter is a graduate of the University of Edinburgh, was associated with Professor E. A. Schaefer for three years, then went to Cornell University, and subsequently became biochemist to the United States Public Health Service.

Publisher's Department

EXHIBITION OF PHOSPHORUS.—In "Ovaltine" the physician has at his service a means to the easy and adequate administration of Phosphorus. In such conditions as neurasthenia, general debility and pulmonary tuberculosis, where disintegration of the tissues exceeds integration, phosphorus is deficient, and therefore if an easily digested and assimilable form of phosphorus can be presented, some advance has been made for the treatment of such cases.

"Ovaltine" is a food rich in phosphatides mainly in the form of Ovo-Lecithin, and as evidence seems to point to questionable value of inorganic phosphorus, and the ready absorption of organic forms, in "Ovaltine" we have a convenient, inexpensive and pleasant form of administrating this important and valuable element.

PUBLIC HEALTH OFFICIALS AND THE WAR. -- When Sir Alfred Keogh suggested six years ago that a sanitary service should be formed from the ranks of the principal medical officers of health in the country in order that the troops might have the advantage of their expert services in times of emergency his proposal met with approval on all hands. It is true that it has not been found necessary to mobilize the entire service, and for very good reasons. At the same time individual members have been called up and are engaged in work which is of the greatest service to the country. Their duties are not of a light character, and they are associated with large responsibilities, causing anxious thought and requiring knowledge of a special character. With respect to nearly every one of those medical officers of health who have been called upon to act in the manner indicated, the local authorities they serve have without the least demur given willing consent, and have realized that they must, in common with others, make some sacrifice for the common good. This is not the time to enter upon new municipal enterprises with the country valiantly struggling for its very existence, and the sensible members of local authorities are giving expression to this opinion and acting upon it, though we regret to learn that the Local Government Board does not