

A PSEUDOHERMAPHRODITE

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CASES of this character are encountered from time to time, but are by no means common. As we had an excellent opportunity of studying this one carefully and as we were particularly fortunate in having most faithful illustrations by Mr. Brödel, I have thought it wise to place the salient features on record.

On May 7, 1902, I was summoned by Dr. E. R. Trippe of Easton to see a case of strangulated hernia, which he said needed immediate attention. The patient (N. C.) had had a hernia for several years and had been wearing a right-sided truss. The hernia had frequently come down for a short time but had always been reduced without much difficulty. This time it had been down for nearly a day and attempt to return it had proved futile. I advised immediate operation.

The following note was made: "The patient's general expression is half masculine. The face is well developed and shows a comparatively heavy beard. The upper lip resembles that of an adult male. In the median line the beard extends half way down the neck. The Adam's apple is not well developed or, at least, not at all prominent. In general appearance the hair over the head is that of a female; it is about eighteen inches long. The voice is masculine in type. The chest development is more masculine than feminine. There is a moderate amount of hair over the sternum; the mammary development is slight and there is a moderate amount of areolar pigment around the nipples and along their lower margins is a good quantity of hair.

The fingers are long and slightly more feminine than masculine in type. The thumbs, however, are distinctly masculine. The forearm and arm are fairly well covered with hair. The umbilical fossa is deep. The pubic hair is well developed and in the median line and also laterally extends upward to a point 2 cm. above the umbilicus. The legs and thighs are well covered with hair and are masculine in appearance. (Fig. 4.) The labium majus on the left side is well developed. On the right side it is also well formed in the lower portion but at the upper part is stretched out over a tumor that extends down from the inguinal region. No clitoris is to be recognized but in its place appears an organ suggesting a penis two inches in length and $2\frac{1}{2}$ inches in circumference. (Fig. 1.) This can be traced to the lower border

of the symphysis where it is recognized as a small cord. The glans is $1\frac{1}{2}$ inches in length, $1\frac{1}{2}$ inches from side to side. It is well developed in the upper portion. The lower portion shows a distinct furrow $\frac{3}{8}$ inch in depth and $1\frac{1}{2}$ inches in length and ending $\frac{1}{4}$ inch above the meatus in a ridge. (Fig. 2.) The mucosa lining the furrow appears more delicate than that covering the glans. The prepuce is well developed and can be drawn down to cover fully one-third of the glans. The urethra proper is situated just below and posterior to the ridge commencing at the proximal end of the groove in the penis. It is distinctly female in type, and $2\frac{1}{4}$ inches in length.

The hymen is represented by a ragged ridge composed of numerous tags forming an elevation about 1 mm. in height around the vagina. The finger enters the vagina for a distance of $1\frac{1}{2}$ inches. Laterally the mucosa is smooth, but posteriorly there is a considerable amount of scar tissue. The width of the vagina is 2 inches. Laterally it extends up to the pubic bones. No cervix can be made out and on bimanual examination no pelvic organs can be detected. The recto-vaginal septum is normal as far as it goes.

The mass in the right inguinal region extending downwards to the right labium majus is 7 inches long and on an average 3 inches in breadth. (Fig. 1.) It is elastic and everywhere resistant and can be pushed upward and downward over a wide area. The lower two-thirds are dull on percussion but no definite solid mass can be detected.

Operation at the Church Home and Infirmary, May 8, 1902. An incision was made over the tumor and by transmitted light the sac was seen to contain a good deal of fluid. This proved to be turbid, and of a yellowish color. Occupying the sac and projecting through the external ring was a knuckle of gut fully 4 cm. in diameter, also a testicle and a portion of the epididymis. (Fig. 3.) As we were rather doubtful about the condition of the gut at the point of constriction, an incision was made higher up in the abdomen. The inguinal canal was opened and, the internal ring having been severed, it was found that a loop of intestine fully 8 inches long had formed the hernia. As it was impossible to return the testicle, this together with the redundant sac was removed. The peritoneum was closed with catgut. Just over the femoral artery was a slight area of oozing

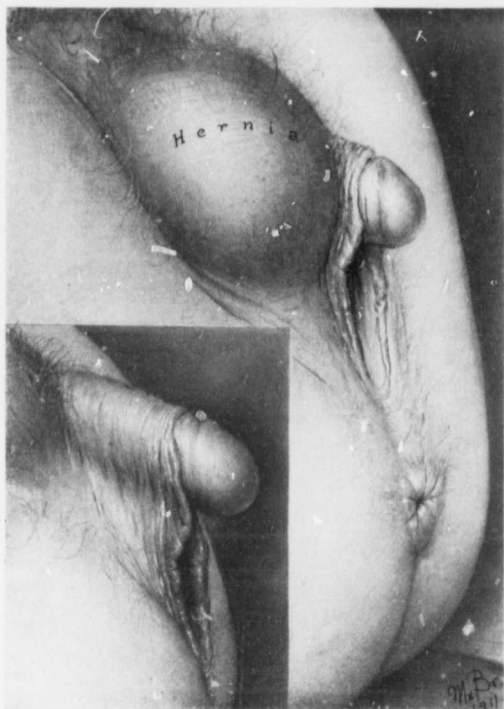


Fig. 1. Right strangulated inguinal hernia in a pseudohermaphrodite. The hernial sac is of moderate size and is encroaching on the right labium. The labia are continued upward forming the rudimentary prepuce.

In the sketch in the left lower corner the hernial sac has been pushed up exposing the penis which is over 2 inches long. The glans is well formed in its upper portion and the prepuce could be drawn down so that it covered one-third of its surface.

For the under surface of the penis see Fig. 2; for the contents of the hernial sac see Fig. 3.

which was rather difficult to check. Here we introduced a delicate drain of iodoform gauze. The abdominal walls were closed with silver wire, catgut, and subcutaneous silkworm gut. The patient stood the operation well. Before the abdomen was closed the pelvis was carefully examined and no trace of uterus, tubes, or ovaries could be found. On the left side a testicle could

be clearly made out in the upper part of the inguinal canal, pressure upon which occasioned considerable pain. The patient made a speedy recovery.

On histological examination the testicle showed some minor changes. The gland epithelium was swollen, the cells closely suggesting the large squamous epithelial type; there was no evidence



Fig. 2 The imperfectly formed urethra in a pseudohermaphrodite. The glans penis is perfectly formed in its upper portion and above is provided with a rudimentary prepuce formed by the labia. The penile portion of the urethra is recognized in part as a groove, in part as a ridge. The urethral orifice is of the female type and is freely patulous to the bladder. The vagina is $1\frac{1}{4}$ inches deep and ends in a blind pocket. There is no evidence of a cervix.

of spermatozoa. The stroma of the testicle was increased in amount.

The epididymis was little altered.

ANATOMICAL POINTS OF DIFFERENCE BETWEEN THE NORMALLY FORMED FEMALE AND OUR PATIENT

Mr. Brödel, who had just read Stratz's book¹ on the female human body, suggested that it might be of interest to compare the superficial anatomical landmarks in our case with those laid down by Stratz as constituting the normal in the female. The accompanying tabulations give the

interesting results as determined by Mr. Brödel after a most careful examination.

MEASUREMENTS OF AVERAGE-SIZED FEMALE (A) AND LARGE FEMALE (B) COMPARED WITH PROPORTIONS IN OUR PATIENT (C), THE BODY LENGTH OF B AND C CORRESPONDING.

	A	B	C
	Normal female of av. size	Normal female of size of our patient	Measurements of our patient
Length of body.....	168 cm.	183 cm.	183 cm.
Weight of body.....	132 lbs.	148 lbs.	170 lbs.
From nose to symphysis (length of spinal column),	62.5 cm.	68.5 cm.	71.5 cm.
Length of head.....	21 cm.	23 cm.	24 cm.
Width at temples.....	13 cm.

¹Stratz, C. H. Die Schönheit des Weiblichen Körpers. Stuttgart, 1900.

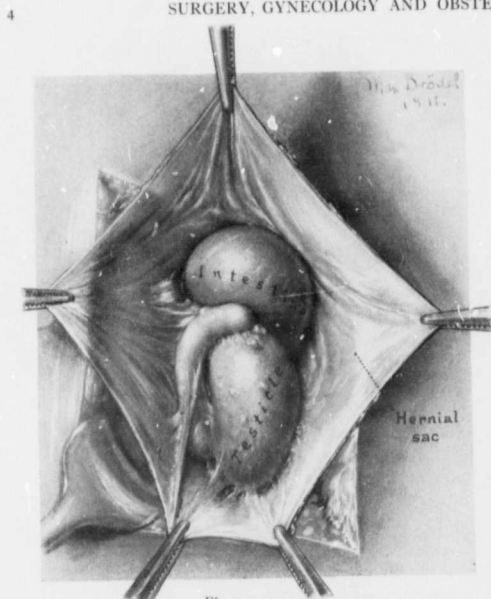


Fig. 3.



Fig. 4.

Fig. 3. The contents of a hernial sac in a pseudohermaphrodite. This mass was 7 inches long and 3 inches broad. It contained a considerable amount of turbid yellow fluid, a loop of small distended bowel, and the right testicle and epididymis. After the hernial ring had been cut, the bowel was reduced, but the testicle and epididymis were so firmly adherent to the sac, as noted in the picture, that it was necessary to remove them.

Fig. 4. Distribution of hair in a pseudohermaphrodite. The healed scar is readily seen. The pubic hair was well developed and extended upward a short distance above the umbilicus. The photograph does not show this very clearly. The legs were thickly covered with hair conforming closely to that of a male.

Leg (great troch.)	90 cm.	98 cm.	94 cm.	Nipples (center to center)	23.5 cm.	26 cm.	21 cm.
Circumference of chest	88.5 cm.	96 cm.	88 cm.	Nipple to umbilicus	28 cm.		
On inspiration			88 cm.	Sym. to spinous process of 5th lumbar vertebra			23.5 cm.
On expiration			84 cm.	Arm			
Width of shoulders	38.5 cm.	42.5 cm.		Length of humerus (axis of joints)			29 cm.
Center of			33 cm.	Length of forearm (axis of joints)			29 cm.
Humerus			32.5 cm.	Length of hand			27 cm.
Acromion process			49.5 cm.	Circumf. of humerus			27 cm.
Skin measurements				Circumf. of forearm			25 cm.
Width of waist	21 cm.	24 cm.	27 cm.	Leg			
Circum. of waist			74 cm.	Length of thigh (axis of joint)			44 cm.
Width of hips at crest of ilium	34.5 cm.	38 cm.	31 cm.	Length of thigh from ant. sup. sp. to bottom of knee-cap			51 cm.
Width at level of great trochanter	34 cm.	38 cm.	32 cm.	Length of leg			44 cm.
Pelvis between anterior superior spines	26.5 cm.	29.5 cm.	27 cm.				
Between post. sup. spines	12 cm.	13.5 cm.	11 cm. ¹				

¹ Angle with central skin fold 90° (sacral triangle).

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Height of foot	6 cm.
Length of foot	24.75 cm.
Circumf. of thigh	39 cm.
Circumf. of calf	34 cm.

Eye sockets, large	Small
Eyebrows, small	Heavy, bushy
Lower jaw, delicate	Strong — prominent
Lines from cheek to neck, graceful	Sharply demarcated
Neck, rounded	Prominent cartilages and muscles

SECONDARY SEXUAL SIGNS OF FEMALE

Normal	Conditions present in our patient
Delicate bones	Heavy bones
Rounded forms and contours	Mostly hard and angular
Prominent breasts	Flat — male type
Pelvis broad	Narrow — male type
Luxuriant hair on head	The same
Transvers. low margin of pubic hair	Extending upward in midline
Little hair in axilla	Much hair
No hair on face and body	Much hair
Tender skin	Thick skin
Rounded, delicate skull	Long, angular skull
Small face	Large face

Waist, slender and graceful	Heavy
Hand small and narrow	Fairly small
Shoulders rounded and sloping	Bony, broad shoulders
Clavicles, small and straight	Heavy, male type
Chest, long and narrow	Broad, male type
Buttocks, prominent	Small, male type
Thigh, thick and rounded	Relatively thin, male type
Low pubic curve	The same
Rounded contours of knee	Angular
Calf, rounded	Angular
Ankle, delicate	Heavy
Feet and toes, small	Large
Second and fifth toes, long	The same