CASE OF TESTIS IN PERINÆO, COMPLICATED WITH CONGENITAL INGUINAL HERNIA AND ACUTE ORCHITIS.

By J. ALEX. WILLIAMS, M.B., M.R.C.S.Eng.,
House-Surgeon and formerly House-Physician to the London Hospital.
Late House-Surgeon to the Royal Portsmouth Hospital.

THE rare and interesting form of congenital malposition of the testicle into the perinæum is less common than its simple retention within the abdomen; but, from its exposed position in this situation, the resulting symptoms are much more severe, and operative interference is more frequently required. According to Curling (*Diseases of the Testis*, p. 51), it appears to be occasioned by an abnormal attachment of the middle portion of the gubernaculum testis to the perinæum.

An analysis of 25 cases in which this malposition has been observed shows that, in the majority of cases, the scrotum is symmetrically developed. In only 6 of the above cases (2 recorded by Curling, 3 by Bryant, and 1 by Baudry) was any maldevelopment observed; and the major portion of these were adults, in whom the atrophy was more congenital, but resulted simply from disuse of the scrotal pouch upon the side involved. The displacement is more frequently observed in connection with the right (17 cases) than with the left testicle (8 cases). In only 3 cases, including that now recorded, was it associated with hernia, the other examples of this complication having been observed by Godard and Bryant respectively.

The present case is the only instance, so far as I am aware, in which it was further complicated by hydrocele. A double displacement has been observed by Mr. Hutchinson. It would appear that retained testicles are prone to become the seat of malignant disease; many such cases have been recorded. From analogy we might reasonably infer, that testicles misplaced into the perinæum, from their greater exposure to external injuries, would be especially liable to that disease. There are, however, no recorded cases of malignant disease attacking a testicle so misplaced. In answer to a question on this subject, Mr. Bryant has kindly expressed himself as follows. "I have never seen a testicle in the perinæum become the seat of cancer. Such testes are usually better developed than the undescended, which are usually ill developed as well as misplaced, and, under such circumstances they are probably less prone to disease than the undescended. I am likewise unable to give you any reference to such a case."

According to Mr. Curling (*Diseases of the Testis*, p. 434,) a misplaced testicle is incapable of secreting spermatozoa; hence "a male with this defect on both sides, though often potent and efficient for sexual intercourse, is incapable of impregnating the female," and is consequently sterile. The same is true if disorganising disease attacks the normally placed testicle. Spermatozoa have never been found in the semen ejaculated during coitus in such cases.

The only recorded case in which a misplaced testicle has been shewn to secrete spermatozoa was met with by Mr. Ledwich in the dissecting-room. In this case the right testicle was misplaced into the perinæum, and its ducts contained spermatozoa. The misplaced testicle being, in the great majority of cases, freely mobile in the perinæum, injurious pressure can, in most cases, be avoided by supporting the gland, by means of a truss or bandages, in the groin. Should, however, the gland become fixed in such a position that injurious pressure is unavoidable, it had better be excised, or an attempt made to replace it in the scrotum. With this object, numerous operations have been performed, but of these there are only recorded two successes. Mr. Annandale, with antiseptic precautions, successfully replaced the right testicle into the scrotum in a child 3 years of age; and Mr. John Wood has successfully performed a subcutaneous operation, in which the gland, having been freed from its perineal adhesions, was replaced in the scrotum and retained there by means of a hare-lip pin. (*Quain's Dictionary of Medicine*, p. 1607.) In many instances, the operation has proved fatal. In Mr. Adams's (*Lancet*, vol. i, 1871, p. 710) case, erysipelas was contracted, and the patient died of peritonitis. At the necropsy, the funicular process of peritoneum was found unobliterated. Commenting upon this case, he remarks that "there is, in all cases of misplaced testicles, a probability of the funicular portion of peritoneum being patent, if not permanently, at least some time after birth." This being so, it is certainly remarkable that hernia is so rarely a complication.

The following table shows at a glance the points previously referred to.

Observer.	References.	Age of Patient.	Testicle Displaced.	Condition of Scrotum.	Complications, etc.
Hunter	Curling's <i>Diseases of Testis</i> , p. 49	12 months	Right	Normal	
Godard	<i>Ibid.</i> , p. 50	56 years	Left	Absent on left side	Large hernia into tunica vaginalis.
Curling	<i>Ibid.</i> , p. 51	4 weeks	Left	Normal	
Ledwich	<i>Ibid.</i> , p. 51	35 years	Right	Absent on right side	
Zeis	<i>Ibid.</i> , p. 52	15 years	Left	Normal	Operation for stone had to be performed on the right side.
Curling	<i>Ibid.</i> , p. 53	Child, age not stated	Left	Normal	
Partridge	BRIT. MED. JOURNAL, 1858, p. 549.	24 years.	Left	Normal	Testicle excised after unsuccessful attempt to replace it in scrotum.
Jas. Adams ...	<i>Lancet</i> , vol. i, 1871, p. 710	11 weeks	Left	Normal	
Osborn	<i>Lancet</i> , vol. ii, 1878, p. 42	5 months	Right	Normal	
Annandale ...	BRIT. MED. JOURNAL, vol. ii, 1879, p. 7	3 years	Right	Normal	First successful operation for replacing testis in scrotum.
Cullingworth.	BRIT. MED. JOURNAL, vol. i, 1880, p. 662	10 weeks	Left	Normal	
Bryant, seven cases	<i>System of Surgery</i> , vol. ii, p. 221	Ages not stated	All right	3 absent on side of misplaced testicle	One hernia into the tunica vaginalis.
Baudry	<i>Lancet</i> , vol. ii, 1882, p. 454	Newly-born	Right	Absent on fixed right side	
Hill	<i>Ibid.</i> , p. 557	11 days	Left	Normal	
Pounds	<i>Ibid.</i> , p. 690	Newly-born	Left	Normal	
German	<i>Ibid.</i> , p. 793	1 month	Right	Normal	
Coates	{ Narrated by	Not stated	Right	Normal	
Lloyd Francis	{ my friends }		Right	Normal	
Williams	...	2 years	Right	Normal	Hernia into funicular process of peritoneum, traumatic hydrocele, and orchitis.

The following case presented several interesting features.

The patient, aged 2 years, was admitted on September 15th, 1882, into the Royal Portsmouth Hospital, under the care of Dr. Lloyd Owen, by whose courtesy I am permitted to publish the case. The mother then gave the following account of his case. A lump had been observed in the right groin from birth. It was about the size of a small hen's egg, mobile, and often slipping into the abdomen. A medical man, whom she consulted, said the child was ruptured. The parents had noticed the absence of the right testicle from its proper scrotal pouch, and the child was often observed to be fretful and peevish without obvious cause. A few hours before admission, the child came in from play crying, when the mother noticed an increase in size of the lump; and, thinking it had met with an injury, brought it to the hospital.

When examined, a large sausage-shaped swelling was observed in the right inguinal region, extending downwards into the perinæum to within half an inch of the anus. A distinct sulcus was visible externally, separating its upper and middle thirds. The upper portion was tense, resonant, and presented the ordinary appearances of hernia. The lower was ovoid, dull, fluctuating, translucent, and evidently contained fluid. The scrotum was well formed and symmetrical; the rugæ well marked. The left testicle was normal in every respect; the right was absent from the scrotum, and could not be felt. Examination of the swelling appearing to cause much pain, chloroform was administered, and the taxis applied to the upper portion, but without success. The lower portion was now punctured, and about an ounce of straw-coloured flaky fluid was withdrawn. This, upon standing, coagulated, and was evidently of inflammatory origin. This portion of the swelling was then very much reduced in size, but did not entirely disappear. The taxis was then reapplied to the upper portion, which was now easily reduced, with distinct gurgling. The testis was then thought to be indistinctly felt in the perinæum. The child was then placed in bed, and had lead lotion applied locally. Next morning, the nurse

reported a reappearance of the swelling, when, upon examination, a lump about the size of a hen's egg was observed in the right perinæum, extending posteriorly to within half an inch of the anus. It was irreducible, but mobile, and very tender upon the slightest pressure. It had the feeling and general outline of an inflamed testicle; and the cord, slightly enlarged, could be felt extending from the swelling up to the groin. The skin over the swelling was slightly reddened. The bowels were naturally opened, and there was no return of the hernia or hydrocele.

[The accompanying woodcut, for which I am indebted to my friend Mr. Basil Walker, House-Surgeon at the London Hospital, very well illustrates the external appearance of the swelling. It was sketched from a wax cast which I made of the perinæum at this time.]

September 17th. Ice was now applied locally, and the swelling subsequently became reduced in size and less painful.

September 30th. The child looked pallid, and appeared to have suffered much pain. The testis now felt hard, smooth, ovoid, measuring two inches in its long diameter; it had become fixed, and the tissues covering it were slightly thickened by the recent inflammation. It was less painful upon manipulation than formerly. The cord felt running up to the groin was not appreciably enlarged. The right inguinal canal was rather patent, and invagination of the skin caused considerable pain. The right scrotum remained empty; the left contained a testicle.

October 1st. The patient was discharged, the mother being told to bring it to the hospital for periodical examination; at the same time, it was suggested that the testicle ought to be excised, if the child continued in pain or had its natural movements impeded.

January 26th, 1883. The right testicle is still in perinæum, of normal shape and size; there is now only a slight perineal prominence to indicate its position. The hernia is constantly slipping up and down. The left testis is normally placed in the scrotum. The child enjoys good health. He plays much without pain or inconvenience.

REMARKS.—The position and character of the swelling upon admission at once excited attention, as did also the absence of the right testicle from its proper scrotal compartment. The ease with which the hernia was reduced after tapping, and the inflammatory character of the fluid withdrawn, at first suggested to my mind that we were dealing with a case in which the hernial sac had become inflamed and dropsical, the tight constriction above rendering the reduction of the fluid impossible. The subsequent appearance of an acute orchitis in the misplaced testicle made it more probable that the fluid withdrawn really came from a traumatically inflamed tunica vaginalis, the orchitis being due to the same cause, or else to accidental puncture of the testicle in tapping. The lump previously noticed by the mother as "often slipping into the abdomen" was without doubt the hernia; for, after tapping, the testicle, as indistinctly felt in the perinæum, was of much too small a size to correspond with that described by the mother. In other words, the hernia was congenital, into an unobliterated funicular process of peritoneum; the hydrocele and orchitis being of traumatic origin, due to recent injury.

The Amersham Guardians and Rural Sanitary Authority, on re-appointing the Medical Officer of Health, have reduced his salary from £100 to £50 per annum.

CASE OF DIPHTHERIA: TRACHEOTOMY.*

By W. H. FOLKER, F.R.C.S.Eng.,

Surgeon to the North Staffordshire Infirmary, Hanley.

THE following case of tracheotomy occurred in a child aged 6 years, and is the more interesting, as it was complicated with bronchocele. The child, a female, had been attended homœopathically for several days for an attack of diphtheria; but, the false membrane beginning to invade the larynx, and rendering breathing very difficult, the case was handed over to my care on January 30th, 1883.

It was at once evident that an immediate operation was necessary to save the little patient's life; for her pulse was sinking; she was blue-looking, and almost suffocated. The arches of the palate, and the pharynx as far as could be seen, were covered with the usual brownish-looking false membrane.

The child, being placed on a table for operation, with the neck and shoulders raised on a pillow, and the head thrown slightly back, was found to have a goitre of considerable size, very congested, and traversed by several large veins. An incision through the skin was made in the mesial line, of about an inch and a half, which exposed a complete meshwork of veins of considerable thickness, and some of which seemed to bleed by merely being touched. Where the larger ones could be traced, an aneurysmal needle was passed, and a ligature placed above and below before the vein was divided; but, notwithstanding the greatest care and caution, the hæmorrhage was most profuse, and from twenty to twenty-five ligatures had to be applied before the trachea was reached. The parts being now carefully sponged dry, the trachea was opened just below the cricoid cartilage; but so deeply was it situated, that the usual sized tube for a child would not reach; the tracheal opening was therefore enlarged, and a full-sized tube inserted. This was fastened round the neck by tapes previously attached, and two sutures applied to the lower part of the wound, closing it so that nothing but the entry of the tube was visible. The operation occupied more than an hour, during which time the child was just kept under the influence of chloroform. The temperature of the room was 70° Fahr., and the atmosphere was kept moistened by steam from a bronchitis-kettle.

The relief afforded by the operation was immediate; the pulse rallied; the natural colour was restored; and in a short time the little patient had a quiet sleep. The entry of the tube was kept covered with a piece of gauze; and several small pieces of sponge mounted on thin wire, were constantly kept handy, to remove any mucus that might be coughed into the tube.

In the evening, I found the child breathing quietly through the tube, although troubled with frequent coughing. She had taken some milk several times during the day.

On the 31st, she had passed a fairly good night. The cough was still troublesome, thick tenacious phlegm at times filling the tube, and requiring instant removal. The throat, being still coated, was mopped out with sulphurous acid. On February 1st, the throat being still coated, the sulphurous acid was again applied. The breathing and cough were about the same. She took milk and Brand's beef-essence fairly well. On February 2nd, the throat was clean; no further application was required. The tongue was furred. The bowels were open. The cough was troublesome; and the phlegm very thick and sticky, and difficult to remove. On the 3rd, all the symptoms were about the same; but she looked better in the face, was cheerful, and took her food better. On February 4th, she did not look quite so well. I removed the inner tube, and closed the outer one with a small cork, and found she could not breathe. Then, thinking the hole on the convexity of the tube might be too small, or have become blocked, I removed it altogether; but it produced such distress, that I was obliged to reintroduce it at once. Whilst it was out, I noticed that the wound did not look very well. It was coated over with a film, but not of the dirty brown colour of diphtheritic deposit. The edges looked reddish, and the stitches seemed giving way. On the 5th, she was not quite so well; looked paler and weaker. The stitches had given way. I ordered the wound to be painted over with carbolic oil three or four times a day. On February 6th, the nurse reported that a little milk had been coughed up through the tube very soon after swallowing it. I tried her with some milk, and found it as the nurse had said; so that the pressure of the tube had evidently caused it to ulcerate through to the œsophagus. She could swallow solid food very well. I removed the tube, which made hardly any difference to the

* Read before the Staffordshire Branch.