CASE No. 51—Megureter, presented by Dr. A. Mills and Mr. W. Houston, Surgical Unit.

Child, D.N., aged one year, admitted 6th November, 1964, with gastro-enteritis following measles. Weight only 14 lb. and moderate pyrexia (99.5°F.) persisted. Heavy pyuria noted. Hb. 6.8 gm. per cent. Blood urea 16 mg. per cent. Physical examination essentially negative. Bladder not distended, but suggestion of a soft swelling in left iliac fossa.

I.V.P. (Dr. P. L. Fjeldus): Normal right kidney pelvis and calyces, moderate dilatation of right lumbar segment of ureter, but no apparent stenosis below (Fig. 1). No contrast medium seen in normal position of left kidney, but pool of dye visible near left sacro-iliac joint.

The most likely diagnosis was ectopic, hydronephrotic left kidney.

Laparotomy was carried out when the general condition of the child had been improved. The bladder was normal, and in particular the muscle was not hypertrophied. There was no patent urachal remnant. The left ureter was enormously dilated and tortuous in its whole extent above a segment one inch long of probably normal calibre at junction with bladder. The left kidney was in its normal situation, but showed considerable hydronephrosis, although the pelvi-ureteric region did not appear abnormal.

As there was a reasonable amount of renal parenchyma, the ureter was freed and straightened, the redundant length excised and the lower end narrowed and reimplemented in the bladder, using a cuff technique as described by Paquin. Suprapubic drainage of the bladder and paravesical tissues was established.

Further progress was uneventful; the suprapubic catheter was removed on the tenth day and normal micturition was soon re-established. Suitable chemotherapy was administered both pre- and post-operatively, but infection has not yet been eradicated.

Comment

Mr. W. Houston: The main interest of this case is the finding of what might be called "arrested development" of the right ureter in association with simple congenital megureter on the left side.

In embryonic development the ureter matures in three segments which are clearly defined after the fourth month. The lower third, caudal to the umbilical arteries, has a circular cross section, held open by a firm muscle layer. The middle third, in the lower lumbar region, appears as a flattened ribbon, the lumen being almost obliterated by apposition of its walls. This segment is the most distensible if fluid is injected into the ureter. The uppermost and shortest segment connects the kidney pelvis to the lumbar segment; its musculature is poor and the walls are often kinked or folded, though these folds normally have disappeared in the full-term foetus.

The potential segmental pattern remains and is often shown up by pathological conditions. I think that the lumbarectasis in the present case is probably due to delay in maturation, but it could well be a response to infection.

Megureter is difficult to classify, as there may be an admixture of types and causes in any given case. A suggested classification is as follows:

1. Megureter due to obstruction at the bladder neck or below. This will be bilateral, the bladder will be distended and hypertrophied, and cystoscopy will often show the typical "railway tunnel" ureteric orifices.
2. Megureter resulting from cystitis. Again, usually bilateral, commoner in girls and largely due to reflux.
(3) Megaureter due to recognisable organic obstruction at the ureteric orifice, such as stricture or ureterocele.

(4) Megaureter associated with duplication. The deuto-pyelon of a pyelon duplex almost always has a very dilated ureter.

(5) Megaureter with apparently normal ureterovisceral junction and lower urinary tract—simple megaureter. The case described would fall in this group.

(6) Megaureter as part of the megaureter-megacystis syndrome. This will be bilateral, with reflux, and the "ear trumpet" ureteric orifices christened "Beanc Congenitale" by Marion.

Choice of treatment may be difficult. Where there is obvious obstruction, as in types (1) and (3), surgical removal of the cause is indicated, and in type (4) removal of the deuteropyelon is usually needed. Type (2) will often respond to long-continued chemotherapy, and this may often be the best way of dealing with types (5) and (6). The results of surgical intervention in these types is often disappointing, largely because of the difficulty of eliminating infection, but may have to be undertaken in an effort to prevent rapid deterioration of renal function.

CASE No. 52—Accidental hypothermia, presented by Dr. J. E. P. Thomas and Dr. S. Gerber, Medical Unit.

History
On 11th November, 1964, S.S., an African female aged about 35 years, was admitted to Ingutsheni Mental Hospital with a diagnosis of schizophrenia.

On 3rd April, 1965, the patient was transferred to Mpiolo hospital with a covering letter stating that she had developed diarrhoea on 29th March which was severe enough to lead to considerable dehydration. Stool culture and microscopy revealed no organisms or parasites other than Streptococcus faecalis, though Schistosoma mansoni was subsequently found. She was given a mixture containing sulphaguanidine, streptomycin and Kaolin, and after apparent improvement lapsed into coma on 2nd April. Her treatment for her mental condition had been Chlorpromazine 200 mg. three to four times per day. The weather had suddenly changed with a drop of about 20° F. on 2nd April.

Examination
General: Temperature on ward chart, 96° F. Tongue dry; loss of tissue turgor; skin dry and cold.

C.V.S.: Pulse 96 per minute, feeble but regular. B.P. unrecordable. Heart sounds faint.

C.N.S.: Patient comatose, with slight response to painful stimuli and absent reflexes.

R.S. and G.I.S.: Nil relevant.

Investigations (3rd April)

E.C.G.: Rate 96/minute; regular rhythm, some muscular tremor; small but definite J deflections were seen in leads I, II, III, AVR, AVL, V, and V which had disappeared when the E.C.G. was repeated on 5th April.

Serum amylase: 139 Somogyi units.

6th April:
B.P. 95/55 and the temperature was 90° F. On 4th April the B.P. was 100/60, the temperature 95° F. and the patient semi-conscious, obeying commands and tending to be restless.

Treatment
(a) Rewarming: The patient was put in a bed on the sunny side of the ward with a covering of three blankets, but no hot water bottles or electric pads.

(b) Antibiotics: Penicillin ½ mega units six-hourly.

(c) Steroids: Intravenous hydrocortisone 100 mg. eight-hourly.

(d) Rehydration: Six litres of normal saline to which had been added 86 m.Eq. of potassium were given in the first 24 hours.

Course
By the evening of 3rd April the B.P. was 99/55 and the temperature was 90° F. On 4th April the B.P. was 100/60, the temperature 95° F. and the patient semi-conscious, obeying commands and tending to be restless.

Discussion
The condition of accidental hypothermia is well reviewed by a special committee of the B.M.A. under the chairmanship of Dr. A. N. Exton-Smith in the British Medical Journal of 14th November, 1964, page 1255, with numerous references to previous authoritative articles.

The case presented here is interesting, because not only did the change in weather constitute an exogenous cause for hypothermia, but several endogenous factors were also responsible, including—

(a) an immobile schizophrenic patient, on
(b) large doses of phenothiazine drugs, who
(c) developed a bowel infection which
(d) caused dehydration and shock.

This case should be a reminder that hypothermia can and does occur on the African continent. That it affects premature babies and cases of kwashiorkor is well known. In kwashiorkor it is probably a lot more common than is realised and may well be one of the major factors responsible for the high mortality of this condition. The last case of accidental hypo-
Thermia recognised at Mpilo hospital was a healthy young male who received severe head injuries as a result of a fight at a beer drink and lay unconscious and exposed on a frosty night till he was found the following morning. Although his head injuries would, almost certainly, have proved fatal per se, we felt that our technique then of rapid rewarming precipitated sudden ventricular fibrillation and cardiac arrest.

Thus in summary hypothermia will probably be diagnosed far more frequently if doctors are aware of its occurrence and low reading thermometers are used to take the temperature in suspected cases. It should be suspected particularly in the very old, the very young and the mentally disordered.

In discussion, Dr. Sapsford spoke about the dangers of rapid massive transfusion with cold blood, which may cause ventricular fibrillation, and suggested that blood for transfusion should be warmed under such circumstances.

CASE No. 53—Primary thyrotoxicosis, presented by Dr. N. Baker, Medical Unit.

Thyrotoxicosis is not commonly seen by clinicians practising among Africans. While toxic nodular goitres are occasionally seen, classical Graves disease is very rare indeed. Gelfand and Trowell, from their long experience in Rhodesia and East Africa respectively, testify to this fact.

In the six years 1959 to 1964, seven cases of nodular goitre with toxicity have been seen at Mpilo hospital. All were females. A single case of diffuse goitre with somewhat equivocal toxicity was seen in a young man. Quoted records of large hospitals in South Africa show a similar low incidence of thyrotoxicosis. This is the more surprising in view of the relatively large number of goitres.

The case now to be shown of a young man with exophthalmic goitre and pretibial myxoedema is thus of considerable interest and may be unique.

The patient is a 21-year-old male whose home is in the Gokwe district. He is employed as a chef near Gwelo and was referred by Dr. J. Taylor after he sought treatment for a small sore on the leg.

For some six months the patient has been aware of pulsation in the neck and latterly of an increased swelling. He was not aware of any lump in the neck prior to this time.

Four months ago "swellings" began to appear on his lower legs. He has lost 20 lb. in weight in the last few months, during which time his appetite has not been good.

Other symptoms volunteered are a mild hoarseness of the voice at times and pain in the back between the scapulae (the latter has gone since admission). He says he had noticed his eyes "getting bigger" for two months, but was not worried by this.

Sweating at night, particularly on the legs, is also of recent onset, but he expresses no preference for hot or cold weather. He does not feel nervous or irritable, but has had palpitations. Diarrhoea has not been a feature.

Previous history and family history reveal nothing relevant.

Examination

The patient is a well-covered, mentally alert young man. Weight, 145 lb. His indifference to cold was clearly demonstrated in the ward on one very cold day on which he was comfortable without a shirt while the other patients huddled in bed.

Thyroid swelling is obvious (Fig. 2). The gland is firm, diffusely enlarged with no palpable nodules. A thrill and bruit are present.

![Fig. 2—Shows enlarged thyroid and typical facies.](image-url)
The eyes are proptosed and the palpebral fissures markedly widened. Lid lag can be demonstrated. Eye movements, including convergence, appear to be unaffected. Vision and ocular fundi are normal.

- The skin over the front of the tibiae shows irregular slightly depigmented nodular elevations and plaques up to an inch in diameter on a slightly thickened base (Fig. 3).

- The hands are moist and exhibit a fine tremor. The fingers show early clubbing. The pulse rate is 100/min. with a marked collapsing quality. The sleeping pulse has never fallen below 84/min. The blood pressure is 145/60 mm. Hg. The heart is normal in size; there is a systolic ejection murmur of moderate intensity at all areas. Other systems are clinically normal.

**Investigations**


Routine urine and stool examination: N.A.D. Full examination of blood for filaria: negative. Serum calcium: 4.8 m.Eq./litre. Blood urea: 12 mg./100 ml. Serum cholesterol: 85 mg./100 ml. Basal metabolic rate (sedation with Largactil, Phenergan, Pethidine) ± 51. Tanned red cell agglutination test shows weak agglutination to 1:5. This result is of no significance.

**Radiographs**


**Comment**

Investigation of thyroid function cannot be taken further here, but clinically the evidence for thyroid toxicity seems unequivocal.

Pretibial myxoedema is said to occur in 1 to 3 per cent. of cases of thyrotoxicosis. It may appear at any stage, sometimes not for some time after the control of the primary disease. As with exophthalmos and ophthalmoplegia, the factors responsible for the condition are undetermined, though often ascribed to a pituitary factor.

The eosinophilia is unexplained. Though microfilaria have not been found, *A. perstans* infection with eosinophilia is not uncommon in people from the Gokwe area.

Treatment has been commenced along standard lines with Carbimazole 10 mg. q.d.s. in preparation for thyroidectomy. It is proposed to add thyroxine shortly, though its effects in preventing progression of exophthalmos is debated. In most cases of exophthalmic goitre the actual degree of proptosis can be expected to remain unchanged following treatment, but the appearance of the eyes improves as the widening palpebral tissues are due to a sympathotonic effect of thyroxine (hence the use of quanethidine in some cases of thyrotoxicosis).

**Discussion**

In discussion, Dr. Thomas noted that the presence of exophthalmos, acropachy and pretibial myxoedema indicated the presence of pituitary activity and the possible danger of precipitating malignant exophthalmos by rendering the patient euthyroid too rapidly.

Dr. Baldachin agreed that although there probably was some danger in thyroidectomy when considered from this aspect, surgery was the ideal treatment for the African patient, as it was unlikely that an antithyroid drug would be taken regularly for a long period.

Fig. 3—Pretibial myxoedema.