diathermized. X-ray therapy was given after the operation and again in January, 1945. However, the patient's condition deteriorated, and a fistula between the bowel and the bladder formed before he died of exhaustion on Feb. 24, 1945.

At necropsy the bladder was found to be full of the proliferating growth, which had completely invaded the vesical mucosa. A fistula had formed between the ileum, bladder, and suprapubic wound. The right kidney and ureter were normal, but the left ureter was much dilated and there was an early left hydronephrosis. No secondary growths were found.

Case II

A male child aged 9 months was admitted to hospital on Nov. 23, 1945, with a history of slight diarrhoea for one week. Two days before admission he had passed blood per rectum and since then had not micturated. He had a slight cough.

On examination he looked pale and toxic. His temperature was 100.4° F. (38° C.), pulse 142, and respirations 36. The abdomen was distended, and a cystic swelling, dull to percussion, arose out of the pelvis. Priapism was present. The external urethral meatus was slightly inflamed. On rectal examination a hard spherical tumour the size of a golf ball was found in the region of the prostate, occupying the greater part of the pelvis, with a distended bladder antero-superiorly. A provisional diagnosis of sarcoma of the prostate was made. The examining finger was blood-stained on withdrawal. Urinary examination showed a faint trace of albumin but no other abnormality. The bladder was slowly decompressed, and the following day a cystogram revealed a large bladder of good shape except for a "flattening" in the region of the trigone. On Nov. 27 intravenous pyelography did not disclose any renal or ureteral abnormality, and a skiagram of the chest was normal. The blood urea was 66 mg. per 100 ml.

The child's condition was poor from the time of admission. During the first week his temperature gradually rose to 104.8° F. (40.45° C.), his pulse to 160, and his respirations to 30. Operation was not considered feasible. On Nov. 30 his blood count was: red cells, 4,800,000 per c.mm.; haemoglobin, 47%; white cells, 21,800 (lymphocytes, 37%; monocytes, 9%; polymorphs, 54%). After decompression of the bladder he began to pass urine normally, but on Dec. 3 feeding difficulties began, and despite various changes in diet and intragastric drips the child died on Dec. 15.

Pathological findings at necropsy were limited to the urinary system. There was no evidence of metastases. The bladder was hypertrophied but small and empty. Its mucosa was congested but intact, and the ureteral and urethral lumina were freely patent. The whole organ was pushed up into the abdomen by a growth the size of a golf ball in the right lobe of the prostate. The growth appeared encapsulated and had not invaded the bladder or rectum, with which it was in contact. Hydronephrosis and hydro-ureter were absent.

Histological examination showed that the mass of growth in the prostatic region attained a diameter of 5 cm. and consisted of uniformly solid white tissue. Microscopical examination revealed cellular sarcoma consisting of large, irregular, elongated cells, the more mature of which were eosinophilic and showed distinct cross-striations in places.

Discussion

All reported cases of rhabdomyosarcoma of the bladder and prostate have been fatal within 13 months, the average being 6½ months after the onset of symptoms. It is interesting to note that in neither of the above cases were metastases found at necropsy, despite the fact that Case I survived 11 months after the onset of symptoms. Previously reported cases also witness that metastases are uncommon, and that the usual cause of death is ascending urinary infection.

The treatment of choice would seem to be total cystectomy and prostatectomy provided that infection is controlled. Khoury and Speer (1944) carried this out; but, unfortunately, ascending urinary infection after the uretero-sigmoidostomy of the second ureter resulted in their

patient's death 2½ months after the operation. The priapism in Case II was presumably due to irritation of the nervi erigentes, as there was no oedema or cyanosis to suggest obstruction in the prostatic venous plexus caused by the expanding growth.

Summary

One case each of rhabdomyosarcoma of the urinary bladder and of rhabdomyosarcoma of prostate are reported.

There were no metastases.

Eight ounces of growth from Case I and the internal urinary organs from Case II have been presented to the Royal College of Surgeons.

I wish to thank Mr. E. C. Bowden and Mr. J. G. Reid for permission to publish these cases, and Prof. R. A. Willis, of the Royal College of Surgeons, for the histological reports.

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Medical Memoranda

Pure Anti-E Agglutinin in the Serum of an Rh-negative Woman

The following case is worthy of record on account of its extreme rarity. The occurrence of the agglutinin anti-E in Rh-negative women has always been complicated by coincident anti-D, in either its complete or its incomplete form, owing to the stronger affinity of the D antigen. A pure anti-E serum has been obtained in an Rh-positive woman cDe/cde—husband cDE/cde (Race, 1946). The following is believed to be the first reported instance of pure anti-E in an Rh-negative woman.

CASE NOTES

Mrs. A., aged 26, blood group O, Rh group rr cde/cde. Husband's blood group O, Rhesus group R^r cDE/cde. She had had no previous pregnancies, miscarriages, blood transfusion, or injections of serum or blood at any time. Last menstrual period, March 29, 1946; expected date of delivery, Jan. 5, 1947. She was admitted to hospital on Jan. 17 because of post-maturity.

Surgical induction (Drew-Smythe, catheter) was performed on Jan. 20, after medical induction by stilboestrol had failed. The foetal heart was last heard on Jan. 20. On the 22nd a stillborn male child weighing 9 lb. 4 oz. (4.2 kg.) was delivered after labour lasting 35 hours 15 minutes. The liquor was recorded as thick but not yellow. The skin, however, appeared slightly yellow and the umbilical cord tissue was definitely jaundiced. The placenta was large, greasy, and granular, in keeping with the post-maturity. A specimen of cord blood showed blood group O, Rh group R^r; the cells also gave a strong reaction with the mother's serum. The maternal serum reacted against R₂ cells and R^r cells, but gave negative results with R₀ and R₁ cells. The titre of the anti-E agglutinin was 1 in 8 with R₂r and R₂R₂ cells.

At necropsy (Dr. Cant) the only pathological findings were the changes due to asphyxia caused by intrauterine inhalation of mucus.

COMMENT

In addition to the production of anti-E agglutinin the actual process of iso-immunization to such a definite extent is unusual for a first pregnancy, particularly with the antigen E. Levine (1945) has shown that erythroblastosis in a first child is usually due to previous immunization by blood transfusion. Although erythroblastosis has not been implicated as a contributory cause of death, it is strongly felt that, had a living child been born, it would probably have shown the signs of erythroblastosis.

I am indebted to Dr. V. M. Cross for permission to record this case. I should like to thank Dr. Sewart for providing the case notes, and Dr. A. E. Mourant and Dr. R. R. Race for confirming the serological findings.

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