The texture of the bones was normal and the mastoid air cells and frontal sinus were well developed. Hypertelorism was well shown. The defects were apparent in the parietal region.

DISCUSSION

Hypertelorism is usually associated with mental defect, although this is not invariably so. The reason for this is not clear, but in this patient the diminution of the frontal lobe capacity may well be the causative factor. Brown and Harper (1946), in a review of published cases, describe cranial abnormalities such as turriccephaly (oxycephaly) and plagiocephaly, but do not discuss intelligence in relation to frontal abnormality. Isola (1932) thought hypertelorism arose from premature closure of the sphenotemporal suture, which interferes with the development of the greater wing and allows overdevelopment of the lesser wing. This would lead to the palatal abnormality, since the underdevelopment of this greater wing would result in a drawing-in in all directions and consequently approximation of the pterygoid plates. This in turn would buckle the palate, causing it to have the extremely high narrow appearance, although it would not result in the palate being cleft. It is easy to imagine that this process may be continued, to involve the whole of the coronal suture, leading to small capacity of the frontal region of the cranium. Premature fusion of the coronal suture is usually considered to result in oxycephaly, a condition often associated with amentia; but oxycephaly was not present in this patient. However, it is difficult to see how this premature fusion can lead to the abnormalities in the posterior fossa and occipital region. Moreover, the changes must have taken place in the foetal period, since in this case the hypertelorism was almost certainly present at birth.

An alternative explanation is that the condition arose as a result of a temporary halt in the development of the chordal part of the base of the skull, whilst development of the prechordal part proceeded normally. This would account for abnormalities in the regions of the foramen magnum and of the sella turcica recorded by Benda (1952). This type of explanation was originally suggested by Greig, who considered hypertelorism arose "by a defect in the chondrocranium and perhaps in the mesoblastic tissue in which the chondrocranium is laid down." Such an aetiology would still require premature fusion of the coronal suture to account for the small frontal capacity.

I thank Dr. A. E. P. Swinson for permission to publish this case and Dr. F. H. Kemp for the radiological examination and his encouragement and advice in the preparation of this report.

F. E. JAMES, M.B., B.S.,
Cotshall Hospital, Chipping Norton, Oxon.

REFERENCES

- Benda, C. E. (1952). *Developmental Disorders of Mentation and Cerebral Palsies*, p. 159. Grune and Stratton, New York.
Brown, A., and Harper, R. K. (1946). *Quart. J. Med.*, 15, 171.
Greig, D. M. (1924). *Edinb. med. J.*, 31, 560.
Isola, A. (1932). Quoted by M. and F. Arce, *Amer. J. Roentgenol.*, 1942, 47, 275.
Kerwood, L. A., Lang-Brown, H., and Penrose, L. S. (1954). *Hum. Biol.*, 26, 313.
Reilly, W. A. (1931). *J. Amer. med. Ass.*, 96, 1929.
Slo-Bodkin, S. G. (1936). *Arch. Pediat.*, 53, 191.

Vesico-vaginal Fistula Associated with Retention of Urine

It is usual to associate vesico-vaginal fistulae with the presenting symptom of urinary incontinence. The literature does not refer to the possibility of retention of urine being a presenting symptom, and for this reason the following case is worth recording.

CASE REPORT

A Bantu woman aged 25 was admitted to King Edward VIII Hospital, Durban, on October 16, 1956, as an emergency case, complaining of retention of urine for 16 hours. The appearance of this symptom had coincided with the cessation of the menstrual loss of an apparently normal menstrual period. Her previous menstrual history was of a regular 5/28-day type and normal. Her history revealed nothing abnormal.

It appeared that urinary incontinence had developed four days after a spontaneous stillbirth during her only pregnancy in 1952, in which the second stage had lasted about eight hours. Difficulty in voiding urine had been experienced with the preceding two menstrual periods, but this had been unassociated with retention of urine until the present occasion.

On general examination she was found to be a well-built woman whose only abnormality was a full bladder. On vaginal examination, however, the canal was found obliterated within an inch (2.5 cm.) of the introitus, and complete obstruction to the passage of various urethral catheters was encountered 1 inch (2.5 cm.) from the urethral orifice. It was therefore decided to relieve the urinary obstruction under general anaesthesia, and exploration of the obliterated vagina with sharp and blunt dissection soon resulted in the development of a passage-way into the upper vagina, which was filled with blood-stained urine.

The diagnosis was thus established of a primary vesico-vaginal (bladder-neck) fistula resulting from extensive pressure necrosis incurred during a prolonged second stage of labour. Fibrosis developing over the years had occluded the urethral meatus, and finally the vagina, to produce retention of urine.

The normality of the upper urinary tract was established before proceeding with the closure of the bladder-neck fistula three weeks later, but, despite extensive mobilization of surrounding tissues, the vaginal stenosis recurred post-operatively, and in spite of closure of the fistula severe stress incontinence left the patient almost as wet as she had been in the past.

The patient was thereupon discharged. She was readmitted three months later, when permanent enlargement of the vagina and continence of urine were finally re-established synchronously by inserting a mould with an overlying skin graft into the vagina (which had been prepared by enlargement and excision of scar tissue) and by elongation and buttressing of the urethra.

COMMENT

Strictures of the vagina and/or urethra in their complete forms are not infrequent accompaniments of vesico-vaginal fistulae, but the complete degree shown in the case described is unique.

I am indebted to Dr. S. Disler, superintendent of King Edward VIII Hospital, for permission to publish this case.

DERK CRICHTON, D.Phil., F.R.C.S.Ed., M.R.C.O.G.,
Professor of Gynaecology and Obstetrics,
Medical School, University of Natal.