More Infantile Hypertrophic Pyloric Stenosis?

Colonel J R Marshall,
L/RAMC

Consultant Paediatrician, Cambridge Military Hospital, Aldershot

SUMMARY: In 1978 there was a disproportionate increase in the number of cases of Infantile Hypertrophic Pyloric Stenosis (IHPS) admitted to the Cambridge Military Hospital Aldershot. This increase has not been sustained in subsequent years, although the mean incidence for the period 1979/82 was slightly higher than the preceding years 1975/77. Analysis of the cases occurring in 1978 did not reveal any unusual factor relating to the increased incidence.

Introduction

Recent reports have suggested a rise in the incidence of Infantile Hypertrophic Pyloric Stenosis^{1,2,3}. In 1978 the number of IHPS admitted to the Cambridge Military Hospital, Aldershot was 13, an incidence of 7 per 1000 for the annual delivery rate of approximately 1800. All the cases were confirmed by surgery. In the years 1975-77 the mean annual incidence for the hospital was 2.8 per 1000 live births. The period 1979-82 had an annual mean incidence of 3 per 1000. The incidence in the UK is given as 2-3 per 1000 live births⁴. The incidence of IHPS per 1000 live births in Central Scotland was shown to have increased from 2.2 in 1975 to 8.8 in 1979¹. In the West Midlands region the increase was from 2.52 in 1975 to 3.64 in 1979² and in South Glamorgan a mean incidence of 1.4 per 1000 live births before 1976 increased to 3.4 per 1000 from 1976 to 1979³.

Patients and Methods

The clinical notes of all cases of IHPS admitted to the Cambridge Military Hospital in 1979 were reviewed. A questionnaire was sent to the parents of these cases to determine if stress of any kind had occurred during the respective pregnancies. The degree of stress reported was categorised as described by Dodge⁸. The numbers of cases of IHPS admitted to the hospital in the period 1975-77 and 1979-82 were obtained from operating theatre records. As the numbers varied from 2 to 7 per 1000 in each year a mean incidence was calculated for each period.

Results

Analysis of the cases of IHPS seen at the Cambridge Military Hospital in 1978 is summarised in Table 1. The sex ratio was 11 males to 2 females, a M:F ratio of 5.5:1. No family history of IHPS was found in any of the cases. This was surprising because of the importance of genetic factors⁵. Primogeniture is often quoted to be significant, as many as 42% being first born⁶. Seven, or over 50% of our cases were first born. Five children (39%) were breast fed for more than one week, most were breast fed until the onset of symptoms. Eight (61%) were bottle

Table 1
Analysis of the Cases (n = 13)

Sex Ratio M:F	5.5:1
Family History	0
Primogeniture	50%
Bottle Fed	61%
Mothers' Ages	Range 19-29, mean 24 years
Age at Presentation	Range 3-14, mean 5.7 weeks
Associated Abnormalities	25%
Maternal Stress During Pregnancy	30%

fed from birth. Mothers' ages ranged from 19 to 29 years with an average of 24. The majority of the cases were social class III (based on father's rank) with only two social class V. The age range at presentation was 3-14 weeks with a mean of 5.7 weeks. Two babies were diagnosed only on second admission. One of these, who was first admitted at 9 weeks with doubtful symptoms, had a normal barium swallow. He was readmitted at 12 weeks vomiting "coffee grounds" and the pyloric tumour was then palpable. Two infants were premature with gestational ages of 34 and 35 weeks and one was small for gestational age. Both had had hyperbilirubinaemia and one required exchange transfusion. The 34 week premature baby had a patent ductus and needed a barium swallow to distinguish the diagnosis of pyloric stenosis from incipient cardiac failure as a cause of his vomiting.

Post-operative courses of the preterm infants were uneventful. Two babies had inguinal herniae⁷ and subsequently had further surgery before one year of age. One baby had a urinary tract infection but radiological investigation was normal⁷. Review of the pregnancies revealed that four mothers had significant stress as defined by Dodge in his paper relating stress factors during pregnancy to IHPS⁸. One mother had already had a handicapped child and her husband was seriously ill during her pregnancy and required a nephrectomy. Other stresses included a previous cot death and two or three episodes of premature labour, absence of the husband on emergency duty abroad at the time of

delivery, hyperemesis to term with poor weight gain, ingestion of the drugs Avomine, Debendox or Largactil for hyperemesis with anxiety about stillbirth, and conception with a coil in situ and anxiety about intrauterine death after the coil had been removed. Thus 30% of the families reported significant stress which compares with Dodge's findings of severe stress in 33% of cases⁸.

Discussion

The mean incidence of IHPS at the Cambridge Military Hospital in the years 1979-82 of 3 per 1000 was not significantly different from the period 1975-77 with a mean of 2.8 per 1000. Analysis of the cases of IHPS occurring in 1978 at the hospital did not reveal any unusual factor to explain the increased incidence (7 per 1000) of IHPS for that year though significant maternal stress was noted during a third of the pregnancies in this small series.

REFERENCES

- 1 KERR, A M. Unprecedented rise in incidence of infantile hypertrophic pyloric stenosis. *Br Med J* 1980; **281**: 714-715.
- 2 KNOX, E.G. ARMSTRONG E AND HAYNES R. Changing incidence of infantile hypertrophic pyloric stenosis. *Arch Dis Child* 1983; **58**: 582.
- 3 WEBB, A R, LAIR, J AND DODGE J A. Infantile hypertrophic pyloric stenosis in South Glamorgan 1970-9. *Arch Dis Child* 1983; **58**: 586.
- 4 FORCAR, J O AND ARNEILL, G C. Textbook of Paediatrics. 2nd Ed. 1978 P 398 Churchill and Livingstone.
- 5 CARTER, C O AND EVANS, K A. Inheritance of congenital pyloric stenosis. *J Med Genet* 1969; **6**: 233.
- 6 DODGE, J A. Infantile hypertrophic pyloric stenosis in Belfast, 1957-69 *Arch Dis Child* 1975; **50**: 171.
- 7 ATWELL, J D AND LEVICK, P. Hypertrophic pyloric stenosis and the urinary tract. *Arch Dis Child* 1980; **55**: 732.
- 8 DODGE, J A. Psychosomatic aspects of infantile pyloric stenosis *J Psychosom Res* 1972, **16**: 1-5.

MEDICAL CORPS INTERNATIONAL

This English language journal whose first issue is due out early next year will be edited by Rear Admiral Karl-Wilhelm Wedel who is also editor of Wehrmedizin und Wehrpharmazie (Military Medicine and Pharmacy).

Our own Surgeon General and Director General of Army Medical Services will be a member of the International Editorial Advisory Board.

No doubt from time to time authors from this country will wish to submit articles for publication in Medical Corps International.