urine is in keeping with the inverted day/night ratio for urine output. Why the highest specific gravity urine was passed during the day and the lowest at night remains obscure, but the cause is probably the same as for the daytime oliguria and nocturnal diuresis.

Summary

A case of pituitary hypothyroidism with impaired renal function due to a penetrating wound of the brain is here reported. The renal abnormality consisted of a diminished urea clearance and an inverted day/night ratio for urine specific gravity and urine output.

Discussion was devoted to the abnormal renal function, which was considered to be partly due to hormonal dysfunction and partly dependent upon change of posture.

I am indebted to the Medical Director-General of the Army for permission to publish this paper and to Col. Roche, who allowed me to study the recorded case in his hospital. I would also like to acknowledge Dr. Ritchie Russell's encouragement and assistance in writing the article.

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INCIDENCE OF ULCER IN HAEMATEMESIS

BY

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It is generally accepted that the most common cause of haematemesis is peptic ulceration, either gastric or duodenal. In a series of 382 cases reported by Natvig, Römcke, and Svaar-Seljesaeter in 1943 radiographic confirmation was obtained in every case; 230 cases were of duodenal ulcer and 152 of gastric ulcer. McCrae (1938), although he gives no figures, states that "in medical practice haemorrhage from the stomach occurs most frequently with ulcer of the stomach or duodenum and from oesophageal varices."

In a small series of cases admitted to this hospital during the last three years, primarily for acute haematemesis, whatever the underlying pathology, only 7 (39%) of 18 patients were found to have radiographic confirmation of peptic ulceration.

Immediate treatment adopted in each case was along the customary well-established lines—i.e., the treatment of acute post-haemorrhagic shock. Morphine gr. 1/4 (16 mg.) with atropine gr. 1/100 (0.65 mg.), both repeated four- or six-hourly as necessary, elevation of the foot of the bed, covered hot-water bottles, half-hourly recording of the pulse rate with repeated blood-pressure estimations, blood counts and blood grouping at the earliest possible opportunity, were some of the immediate measures adopted. Small drinks of sweetened fluids were allowed in most cases if vomiting ceased soon after admission. Where it was apparent that bleeding had stopped, as evidenced by the return to normal of temperature, pulse, and blood pressure, the recognized Witts (1937) modification of the Meulengracht two-hourly dietetic regimen (so far as wartime conditions would allow) was instituted, together with full doses of iron, phenobarbitone, magnesium trisilicate and belladonna mixture, and adequate vitamin dosage. The iron was administered in the form of ferri et ammon. cit., gr. 30 (2 g.) thrice daily, and was continued long after the patient was discharged to the out-patient "follow-up" department. It is interesting to note that this quite simple medication was all that was necessary to produce the desired haemopoietic effect, and the blood picture improved steadily week by week.

All cases did well on this routine, and the average duration of treatment in hospital was about five weeks. Three months later a barium meal was taken, the patient being screened, and the radiological conclusions were as follows: chronic duodenal ulcer, 5; chronic gastric ulcer (confirmed by gastroscopy), 1; anastomotic ulcer (confirmed by operation), 1; making a total of 7 (39%). Two cases (11%) gave histories

suggestive of peptic ulceration, but no radiographic evidence of this could be obtained. In these circumstances I feel it is reasonable to assume that the diet, rest in bed, and medicines were responsible for complete healing of the ulcer and subsequent negative skiagrams. Two further cases (11%) proved later to be due to cirrhosis of the liver, where it is probable that the haematemesis were the result of ruptured oesophageal varices or congestion consequent on portal obstruction. One patient in the series had hypertension with severe epistaxis, and it must be concluded that some of his haematemesis, if not all, was caused by swallowed blood.

Gastric Erosion as a Cause of Haematemesis

The most interesting proportion is that of six patients (34%) from whom no history of dyspepsia could be elicited and who were perfectly fit up to or just before the time of haematemesis. In all these cases, after an uninterrupted recovery when treated along the above lines, a later x-ray picture revealed a perfectly normal stomach and duodenum. Fractional gastric analyses also performed at a later date showed no gross abnormalities, although some hyperchlorhydria was recorded in one case. In the absence of any other positive clinical or pathological findings it was concluded that these must have been acute gastric erosions. Avery Jones (1944) has stated, "Of 337 patients admitted for haematemesis and melaena, over half of whom were gastroscoped usually in the first week, seven were thought to have active gastritis to account for their bleeding." Jennings Marshall (1944) has expressed the view that "haemorrhage is an occasional manifestation occurring from superficial erosions. It may be brisk but is never severe or prolonged in such cases." Our small series tends to confirm this observation in that not one of our six "erosions" required a blood transfusion.

Horace Evans (1944), in discussing the treatment of duodenal ulceration, states that "the diagnosis of duodenal ulceration is in most patients relatively easy and confirmation by x rays satisfactory. The frequency with which complications, such as haemorrhage, perforation, and even stenosis, occur in patients who have minimal symptoms of indigestion is surprising, though no doubt in some this is due to the ulcer being of the more acute type. This type of ulcer or superficial erosion may heal with very little residual deformity, and so reveal no x-ray change soon after a haemorrhage."

In such a relatively small selection of cases one can hardly regard these conclusions as being of particular significance, especially when the primary treatment of haematemesis due to acute erosion remains identical with that due to chronic ulceration. It would, however, be most instructive to learn whether the incidence of acute gastric erosion is actually as high (34% of all cases) in larger hospitals as it has been found here. The proportion of admissions for acute haematemesis in this hospital is approximately 1 in 50, and it would therefore take many years to collect a comprehensive enough series to be worthy of consideration. If this could, however, be undertaken at hospitals where the number of admissions for haematemesis is higher, further light may be thrown on this interesting observation.

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The latest report of the Royal Hospital for Sick Children, Glasgow, states that 6,000 in-patients were treated during the year, and 70,000 out-patients, but adds that the work done was not up to what the hospital is capable of doing in normal times, with proper facilities, towards meeting the needs for medical, surgical, and specialist treatment of children in the centre and west of Scotland. "The infantile mortality rate in Glasgow is terribly high. It is the business of such a hospital as this to investigate the causes and find a cure."