the absence of glycosuria and low blood-sugar level excluded this diagnosis; the low blood-sugar level indeed is in favour of an adrenal crisis.

The most likely explanation of the course of events in this patient was primarily viral tracheobronchitis complicated by a myocarditis, the stress of these two conditions precipitating the adrenal haemorrhage and failure. The occurrence of myocarditis and adrenal failure complicating virus tracheobronchitis was reported in a study of deaths during an influenza epidemic by Bowden and French (1958) and another fatal case of myocarditis and adrenal failure in influenza was reported by Rowan and Coleman (1959).

What should be stressed again is that in the three cases that survived an acute adrenal crisis in pregnancy intravenous hydrocortisone was probably the important factor and was used too late in our case. We feel that any case of obstetrical shock not responding to the usual resuscitative measures should be given intravenous hydrocortisone in adequate dosage in good time.

We thank Mr. J. Marshall Scott for permission to publish this case and Dr. R. W. Darby for the post-mortem report.

S. ENDE,* M.B., B.Ch., M.R.C.O.G.,
G. M. STEINER, M.B., B.S., D.Obst.R.C.O.G., D.C.H.,
Obstetric Department, Whittington Hospital, Highgate,
London.

REFERENCES

- Barry, A. P., Meagher, D., and Geoghegan, F. (1956). *Irish J. med. Sci.*, p. 160.
Bowden, K. M., and French, E. L. (1958). *Med. J. Aust.*, 1, 553.
Crawford, M. D. (1951). *J. Path. Bact.*, 63, 365.
Dewhurst, C. J. (1951). *Brit. med. J.*, 2, 22.
Grubb, D. J., Holmes, F., Pearson, M. G., and Syme, J. (1960). *J. Obstet. Gynaec. Brit. Emp.*, 67, 572.
MacGillivray, I. (1951). *Brit. med. J.*, 2, 212.
Moore, H. C., and Fleming, J. B. (1958). *J. Obstet. Gynaec. Brit. Emp.*, 65, 593.
Rowan, T., and Coleman, F. C. (1959). *J. Iowa St. med. Soc.*, 49, 632.
Tennant, R. A., and Macnaughton, M. C. (1959). *J. Obstet. Gynaec. Brit. Emp.*, 66, 660.

Torsion of the Spleen in Pregnancy

The occurrence of torsion of the spleen is rare enough to warrant reporting another case. The chief source of information on this subject is a paper by Abell (1933). He gleaned 95 cases from the literature and gave valuable statistical information. In this series there were 88 females and only 5 males; 12 of the cases occurred during pregnancy or the puerperium.

Abell thought that there were probably two factors involved: (1) congenital elongation of the splenic pedicle, and (2) any condition giving rise to relaxation of the abdominal wall and visceral ligaments. A large majority had had several pregnancies. Increased weight of the spleen may be another factor, since rotation occurred in 28 patients with a history of malaria. The spleen may wander to any part of the abdomen, and it was found 23 times just above or in the pelvis and only seven times in the left upper quadrant. A diagnosis of twisted ovarian cyst was often made. The symptoms were those of an acute abdominal catastrophe chiefly localized to the region where the spleen happened to be lying. Seven cases were recorded as having acute intestinal obstruction as a result of the torsion, three involving the small intestine. Although most of these cases presented as an acute emergency, in 13 instances the attack lasted from several days to four months, the

patients having survived the acute onset with adherence of omentum and intestine. There was a 41% mortality in Abell's series when torsion occurred during pregnancy or the puerperium, but these figures were collected before 1933.

CASE RECORD

A married woman aged 28 was admitted to hospital complaining of pain in the left groin and severe backache in this region for two days. She felt nauseated and vomited on several occasions. She had had one normal pregnancy two and three-quarter years previously and her last menstrual period was four months before admission.

On examination her general condition appeared to be good: her temperature was 100° F. (37.8° C.), pulse 120, respiratory rate 24, and blood-pressure 150/70. Her abdomen was distended and tender on palpation, the tenderness being most pronounced in the left groin. The size of the uterus corresponded to a 20-weeks pregnancy. Her blood count was: haemoglobin 9.7 g./100 ml. and white cells 20,000/c.mm. (polymorphonuclear leucocytes 18,800/c.mm.). The following day her condition deteriorated. She vomited once, her abdomen became more distended, and peristalsis was visible. She was thought to be suffering from small-bowel obstruction and was treated by gastric suction and intravenous fluids. A straight x-ray film of the abdomen showed marked distension of the small bowel. The uterus contained a twin pregnancy.

During the next five days her condition tended to improve, with variations in the degree of abdominal distension and pain. She had an irregular temperature varying between 99 and 102° F. (37.2 and 38.9° C.) and her pulse rate varied from 100 to 120. The intragastric suction and intravenous drip were discontinued when she began to pass flatus. By this time a tender mass could be felt in the left groin, which was thought to be the spleen. It was hoped that avoidance of operation at this stage might have allowed the pregnancy to continue, but on the eighth day the patient miscarried twins, weighing 1 lb. 12 oz. and 1 lb. 8 oz. (795 g. and 680 g.). An intravenous pyelogram showed that there was a large soft-tissue mass overlying the left kidney, extending to below the level of the iliac crest. The patient continued to have signs of an intermittent subacute small-bowel obstruction, which failed to subside with conservative treatment.

Operation.—Laparotomy was performed through a left paramedian incision. The tumour was found to be due to acute torsion of the spleen, which had rotated three times on its elongated pedicle in the left upper quadrant of the abdomen. It was dark reddish purple in colour and contained a large cystic area full of altered blood. The small intestine was firmly adherent at several points and greatly distended. It was freed by severing the adhesions, after which splenectomy was performed without difficulty.

Her subsequent progress was uncomplicated. She was discharged 13 days after operation.

COMMENT

Torsion of the spleen is an uncommon condition, occurring more often in women than in men, and proportionately more frequently in pregnancy. Difficulties in diagnosis are likely to arise because the possibility of splenic torsion is not often considered, and it may be made more difficult by the presence of a pregnancy. It is probable that patients with this condition will be referred to a gynaecologist with a diagnosis of a twisted ovarian cyst, or on account of symptoms relating to pregnancy. Surgical removal of the spleen presented no difficulties, apart from the adhesions to the small intestine.

D. LINCOLN LEWIS, M.C., M.A., M.Ch., F.R.C.S.,
H. G. WOLSKEL, M.B.E., M.R.C.S., M.R.C.O.G.,
Royal Salop Infirmary, Shrewsbury.

REFERENCE

- Abell, I. (1933). *Ann. Surg.*, 98, 722.

*Now at the Radiodiagnostic Department, Hammersmith Hospital, London.