capnoperitoneum allowing early removal of the drain in the postoperative period.

If the presentation is of a tension capnothorax then the capnoperitoneum should be deflated until cardiovascular stability has been restored. In our case following drainage of the capnothorax, surgery continued without further problems.

The monitoring suggested would be considered by many to be essential but the diagnosis may still be missed or delayed without a high index of suspicion of this well-recognized problem.^{2,3}

C.J.E. Day MB ChB MRCP FRCA

M.R.J. Parker MB ChB MRCP FRCA

A.H. Cloote MB BS FRCA

Sir Humphry Davy Department of Anaesthesia

Bristol Royal Infirmary

Bristol BS2 8HW

UK

REFERENCES

- 1 Mangar D, Kirchoff GT, Leal JJ, Laborde R, Fu E. Pneumothorax during laparoscopic Nissen fundoplication. *Can J Anaesth* 1994; 41: 854-6.
- 2 Bittner HB, Meyers WC, Brazier SR, Pappas TN. Laparoscopic fundoplication: operative results and short term follow up. *Am J Surg* 1994; 167: 193-200.
- 3 Reid DB, Winning T, Bell G. Pneumothorax during laparoscopic dissection of the diaphragmatic hiatus. *Br J Surg* 1993; 80: 670.

Cardiac arrest after intrauterine instillation of 32% dextran-70 during hysteroscopy

To the Editor:

We describe a patient without known allergies who presented for hysteroscopy. Anaesthesia was induced with propofol and sufentanil. Shortly after uterine distension with 32% dextran-70, the patient experienced sudden, severe, sinus bradycardia and hypotension, progressing rapidly to asystole. Resuscitation with chest compression, atropine and epinephrine was begun. The clinical diagnosis of an anaphylactic reaction to dextran was made and methylprednisolone, diphenhydramine, and cimetidine were administered. The patient was successfully resuscitated and recovery was complete.

An allergy consultant established the diagnosis of anaphylaxis to dextran and recommended three days of *iv* steroids and H₁ and H₂ blockers. Serum tryptase concentration shortly after the event was 1.5 U · ml⁻¹ (normal

<0.5 U · ml⁻¹). This is a specific indicator of mast cell mediator release and is essentially absent from normal serum or from serum collected from patients suffering hypotension due to other causes.¹ It confirms anaphylaxis and mast cell degranulation was associated with the cardiovascular collapse.

Dextran is a polysaccharide molecule marketed in several formulations. Hysteroscopy is commonly performed using 32% dextran-70 as the distending media. Adverse reactions to dextran include volume overload, pulmonary oedema, coagulopathy, and dextran-induced anaphylactoid/anaphylactic reaction (DIAR). The incidence of DIARs is reported to be as common as 1 in 383,² and can occur when as little as 0.5-1 ml of dextran enters the circulation. Previous exposure to dextran is not necessary for a DIAR to occur since antibodies may be formed by exposure to naturally occurring polysaccharides.

Dextran-1 (Promit) decreases the incidence of DIARs when administered prior to intravenous administration of higher molecular weight dextrans.³ It is safe, effective and has no known contraindications.⁴ Dextran-1 is a monovalent hapten which binds to only one antibody. This blocks antibody binding by high molecular weight dextrans, preventing immune-complex formation. We recommend that clinicians consider administration of 15% dextran-1, 20 ml *iv*, two minutes before instillation of high molecular weight dextran solutions into the uterus for hysteroscopy.^{3,4}

Paul J. Kuzma MD

Thomas M. McLoughlin Jr MD

Renata J.M. Engler MD

Anesthesia and Operative Service

Walter Reed Army Medical Center

6900 Georgia Avenue

Washington, DC 20307

REFERENCES

- 1 Laroche D, Vergnaud M, Sillard B, Soufarapis H, Bricard H. Biochemical markers of anaphylactoid reactions to drugs. Comparison of plasma histamine and tryptase. *Anesthesiology* 1991; 75: 945-9.
- 2 Paull J. A prospective study of dextran-induced anaphylactoid reactions in 5745 patients. *Anaesth Intensive Care* 1987; 15: 163-7.
- 3 Ljungstrom K, Renck H, Hedlin H, Richter W, Rosberg B. Prevention of dextran-induced anaphylactic reactions by hapten inhibition I. *Acta Chirurgica Scandinavica* 1983; 149: 341-8.
- 4 Promit Prescribing Information, Pharmacia Inc., Piscataway, NJ.