

Bouquets

David Woods' Publisher's Page offers refreshing and personal little gems that add imagery to a scientific journal.

In the same manner, the Journal is enhanced by Dr. Peter P. Morgan's colourful and useful articles on how to write better scientific prose. Authors could get no better information than that in the May 15, 1984 article, entitled "To write better, write better paragraphs".

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Unusual use of ultrasound in a paranoid patient

A 41-year-old woman with paranoid schizophrenia that was well stabilized by neuroleptic medication became pregnant, as confirmed by both a pregnancy test and ultrasonography. She denied the possibility, however, and suggested that she actually had cancer. She had not seen the ultrasound views of the fetus.

In view of the risks to the fetus presented by the mother's age and exposure to antipsychotic medications, as well as the mother's inability to look after a child, a therapeutic abortion seemed best. But although the patient was not frankly delusional her paranoid defence presented a serious management problem.

The patient's case manager, psychiatrist and general practitioner arranged for another ultrasound study, during which the patient was able to

"see" the fetus. Convinced of her pregnancy, she readily agreed to a therapeutic abortion.

Thus, through the creative use of technology and coordination by the health care team, a possible tragedy was avoided.

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CMAJ tries to publish as wide a selection of letters to the editor as possible. We can accept more letters and publish them more promptly if they are short and convenient to edit. We ask that letters be no longer than two typescript pages (450 words) and be typed double-spaced with wide margins, like a manuscript.

Getting the air out of the IV line

Air in the intravenous (IV) administration set is a not uncommon problem, usually resulting from not replacing the container as soon as it is empty.

There are a number of methods for removing the air from the plastic tubing of the set. The new container may be placed on the floor so that blood flows backwards into the set, displacing the air retrogradely into the container, but often, especially with small veins, the retrograde flow of blood is not sufficient. Another method is to disconnect the set from the IV cannula and flush out the air; this is messy, however, especially when blood oozes from the disconnected cannula. Yet another method

is to pierce the latex injection site of the IV set with a large-bore needle and let the set "run", thus allowing air to be "bled" out through the needle; this is not always completely effective, and there is a danger of air embolism.

I have found the following method to be very effective, safe and clean. First, the IV container, if empty, is replaced, and the filter of the set is half filled. Next, the plastic drip regulator is moved down the set towards the patient until it is well below the air level in the set and turned off (preferably, the regulator should be as near the patient as possible). A 5- to 10-mL plastic syringe is then placed on the segment of plastic tubing next to the regulator on the side opposite to the patient. Next, the tubing is wound tightly around the syringe, displacing air and fluid towards the container. When the last of the air has passed retrogradely back through the filter, the tubing is released from the syringe and immediately fills with fluid from the container. Administration of the fluid from the IV set, now air-free, may be continued.

I have found that of the 10-mL volume of the average IV set (excluding the filter chamber) 7 mL of air can be removed by this method.

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Aortoenteric fistula developing 7 years after aortofemoral bypass surgery

Aortoenteric fistula is an uncommon complication of aortofemoral bypass

surgery for abdominal aortic aneurysm. It usually presents with hematochezia, hematemesis or both and is rapidly fatal. The following case was unusual in that there was a long lapse between the surgery and the development of the fistula as well as between the initial and terminal gastrointestinal bleeding.

Case report

A 58-year-old man was admitted to hospital with crampy abdominal pain, diaphoresis and hematochezia of sudden onset. He was pale and sweaty and had a pulse rate of 26 beats/min and a blood pressure of 160/90 mm Hg.

He gave a history of aortofemoral bypass surgery 7 years previously, as well as bilateral subclavian artery bypass 1 year previously. For 7 years he had been treated with spironolactone for hypertension. Eight months before admission he had had hematemesis and melena. Endoscopy and biopsy had shown superficial gastric erosions, and he had been managed conservatively.

This terminal admission lasted 2 days. The hemoglobin level, initially 118 g/L, rose within hours to 146 g/L following the transfusion of three units of packed cells. Rectal examination showed melanic stools but no local lesions. Endoscopy and biopsy demonstrated erosive gastritis with no obvious ulcer. His condition stabilized, but on the second hospital day chest pain developed, and he passed about 10 mL of bright red blood per rectum. A hemoglobin level of 143 g/L was recorded. The patient was prepared for laparotomy, but cardiac arrest developed, and he died.

Autopsy showed the entire gastrointestinal tract to be filled with fresh blood. At a point immediately above an aortoiliac bypass graft was a fistula between the aorta and the third part of the duodenum. The aorta showed advanced atheronecrosis. The duodenal mucosa had an inconspicuous 5-mm-long slit through which a probe was freely admitted to the aorta. Retraction of the duodenum revealed a circular defect 2 cm in diameter in the aortic adventitia (Fig. 1). At this site there was no evidence of an abscess or a duodenal ulcer, but there were fi-

brous adhesions between the third part of the duodenum and the aorta.

Other significant autopsy findings included a recent myocardial infarct, a large tubulovillous adenoma of the cecum, and hypertensive heart and renal disease.

Comments

Aortoenteric fistula in patients with an aortic Dacron graft has an incidence of between 0.6% and 4% according to a recent study.¹ The fistula most commonly involves the upper aortoprosthetic anastomosis

and the third part of the duodenum, as in this patient. A mean interval of 36 months from the graft surgery to diagnosis of the fistula was recorded in one series.¹ This case was unusual with an interval of 84 months. Symptoms of gastrointestinal bleeding appeared an average of 25 days before diagnosis in the same series; in only one patient did bleeding precede diagnosis by 8 months, as in this case.

The cause of fistula formation in these patients is uncertain. Infection of the graft has been suggested, as has repeated mechanical trauma



Fig. 1—Upper panel: blood-filled duodenum adherent to upper aortoprosthetic anastomosis. Lower panel: aortoenteric fistula, revealed by retraction of duodenum.

from arterial pulsation. The latter seems most likely in the case I have described, as adhesions anchored the third part of the duodenum to the aorta, there was no histologic evidence of infection at the site, and the patient was hypertensive.

Preoperative diagnosis is difficult, and the outcome of surgery poor. In this patient myocardial infarction was a terminal complication that further reduced the already slim chances of successful surgery. Endoscopy failed to provide a diagnosis, a biopsy showing only acute superficial gastritis. The endoscope needs to be inserted to the limit to make the diagnosis in these cases.

In this patient the classic "herald hemorrhage" — brisk bleeding that ceases spontaneously — prompted his last admission and was followed by further bleeding a day later. Given the encouraging results of elective graft reconstruction of abdominal aortic aneurysms it seems worth while to bear in mind the possibility of aortoenteric fistula in all such patients with gastrointestinal bleeding, whatever the mode of presentation or interval since graft surgery.

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Reference

1. CHAMPION MC, SULLIVAN SN, COLES JC et al: Aortoenteric fistula. Incidence, presentation, recognition, and management. *Ann Surg* 1982; 195: 314-317

Congenital heart disease and DPT vaccination

Ratliff and Burns-Cox¹ described a 76-year-old woman who had an anaphylactic reaction to tetanus toxoid. I would like to report my experience with a 2-month-old infant with congenital heart disease who had a serious adverse reaction to diphtheria-pertussis-tetanus (DPT) vaccine.

This infant, with truncus arteriosus and a ventricular septal defect, had normal vital signs before he was given 0.5 mL of adsorbed DPT vaccine intramuscularly. An hour

after the injection he became dyspneic, cyanotic and shocky. He went into heart failure about 6 hours later and died despite resuscitation measures.

Although anaphylaxis was likely in this case, a harmful effect of the vaccine on the infant's cardiac function, which was already compromised, cannot be excluded. Precautionary measures, such as giving the DPT vaccine in two half-doses, may be advisable in patients with a major cardiac defect.

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Reference

1. RATLIFF DA, BURNS-COX CJ: Anaphylaxis to tetanus toxoid. *Br Med J* 1984; 288: 114

Word rounds: the emergency department

Dr. Relso, the literate attending physician featured in Dr. Peter P. Morgan's editorial on word rounds (*Can Med Assoc J* 1984; 130: 1516), has not worked in the emergency department of Mammoth Memorial for some time, as evidenced by his use of the word "emergentologist". While this word denotes the specialty nature of emergency medicine, it is not the term that those of us working in the discipline in Canada have chosen to use. We are called a variety of things by our medical colleagues but refer to ourselves as, and prefer to be called, "emergency physicians".

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The first gynecologic examinations

Gynecologic abnormalities in children are not adult disorders in small organs. The reproductive tract of a girl differs in both structure and function from that of a woman. The

physician with young patients should have adequate knowledge of these differences so that diagnosis is accurate and management appropriate. Moreover, these anatomic differences require that the examining physician use specially designed equipment (e.g., a vaginoscope or virginal vaginal specula) to avoid causing undue discomfort and consequent anxiety about future examinations.

Since most gynecologic abnormalities found in the prepubertal period are limited to the external genitalia, they should be recognized at birth or soon afterwards. Some of these defects require immediate correction, and some may alert the physician to the presence of congenital adrenal hyperplasia, which requires immediate medical therapy if the potentially lethal complications are to be prevented. Even if management of the genital abnormality can safely be delayed until early adulthood, early diagnosis allows the physician to plan the future therapy intelligently and to prepare the patient properly, both physically and emotionally, for it.

As the child begins to mature, the reproductive tract assumes increased importance. The development of secondary sexual characteristics and the onset of menses are landmarks in the establishment of gender identity. Any deviation from what the adolescent perceives to be normal pubertal development is a major cause of concern for both her and her parents. If referred to a clinic with special expertise in the examination of prepubertal and adolescent girls she would have the opportunity to develop rapport with clinic staff to whom she could return for future genital-related concerns, including appropriate contraceptive counseling when desired.

Following the gynecologic examination after birth girls should not require another such examination until they become sexually active or reach age 18 unless warranted earlier by trauma, bleeding, pain, vaginal discharge or the presence of a pelvic mass. Girls who were exposed to diethylstilbestrol in utero, however, should be examined immediately following menarche even if not sexually active.

In summary, for many girls the