He talked of his previous incarnation in eighteenth century Russia when he had led a large religious movement, was persecuted, and had castrated himself with a red-hot poker. There was no psychiatric history, but his father had died three days previously. A consultant psychiatrist diagnosed an acute reactive psychosis, detained the patient formally, and sedated him. He was then transfused, and his wounds were explored under general anaesthetic. There was a 10 cm scrotal laceration, and he had successfully excised the left testis and the lower pole of the right. Haemostasis was achieved and the wound debrided and sutured. He made a satisfactory recovery and was reviewed by the consultant psychiatrist, who found him to be lucid and rational. He was discharged on sedation with psychiatric and surgical follow up arranged but subsequently committed suicide by swallowing weedkiller.

Comment

In a recent review of 53 reported cases of deliberate male genital self mutilation only seven patients were considered not to be psychotic at the time of self mutilation.³ Ten had made previous attempts at genital self mutilation, and at least half had received previous psychiatric treatment, many being long term inpatients. The two patients described here are unusual in that genital mutilation was the first indication of a psychiatric disorder. They are the first cases to be recorded after the recent death of a father, though in one previous case the patient had just lost his pet dog and a tame bird.³

Genital injuries varied from those without lasting harm to complete amputation of the genitals with other bodily injury, but no difference has been observed in the severity of injuries between the psychotic and non-psychotic groups.³

Genital self mutilation after paternal death might be expected on theoretical grounds in individuals with an unresolved oedipal complex. The son may have regarded his father as a potential rival and have felt guilty about his continuing sexual attachment to his mother. Thus the guilt that is part of any bereavement reaction⁴ might occasionally be greatly exaggerated. The son might then punish himself by genital injury or castration, thereby carrying out what he considered was his father's wish in an attempt at restitution.

Further cases may be prevented by increased awareness. Sons at risk would probably have an undue attachment to mother, an intense ambivalent relationship to their deceased fathers, and a very intense or otherwise abnormal grief reaction.

The subsequent suicide risk has been estimated at 50% by one group,⁵ but Greilheimer and Groves thought that only five of their 53 reviewed cases were acutely suicidal.³ The second case reported here emphasises the risk in these patients.

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¹ Mendez R, Kiely WF, Morrow JW. Self emasculation. *J Urol* 1972;107:981-5.

² Berlin LM, Grueneberg J. Genital self-mutilations by mental patients. *J Urol* 1948;59:635-41.

³ Greilheimer H, Groves JE. Male genital self-mutilation. *Arch Gen Psychiatry* 1979;36:441-6.

⁴ Parkes CM. Bereavement and mental illness. *Br J Med Psychol* 1965;38:1-26.

⁵ Engelman ER, Polito G, Perley J, Bruffy J, Martin DC. Traumatic amputation of the penis. *J Urol* 1974;112:774-8.

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Is measurement of girth of value in assessing intraperitoneal bleeding after trauma?

Measurement of abdominal girth is frequently used to aid the assessment of intraperitoneal bleeding after trauma. As the circumference (C) of a sphere increases in proportion to the cube root of the volume (v) ($C = \sqrt[3]{6\pi^2 v}$), it seemed to us that a considerable volume of blood might accumulate in the abdomen with little change in girth. We

decided to test this hypothesis and assess the reproducibility of the measurement in a ward setting.

Patients, methods, and results

Three groups of adult patients were studied. All measurements of abdominal girth were performed using a non-elastic tape at a premarked level.

In group 1 six patients undergoing peritoneal dialysis for chronic renal failure had their girths measured during infusion of dialysate. All intra-abdominal cannulas had been in place for one week or more without abdominal discomfort and girths were measured by one person. The table gives the results. The increase in girth varied by a factor of three despite identical volumes of dialysate injected.

In group 2 interobserver variation was assessed by taking measurements in convalescent patients with limb trauma but without abdominal injury. Measurements were taken on three patients by six nurses and one doctor within a 20 minute period. The results showed a scatter either side of the mean but in no case was the difference between minimum and maximum measurements less than 2 cm, and in one patient it was as high as 3 cm. Yet the change in girth after a 2 litre fluid infusion was as small as 2.5 cm in one patient (table).

Finally, in group 3 we studied diurnal variation in girth, again in convalescent patients with limb trauma but without abdominal injury. One observer made four measurements at specified times during the day. The observed changes varied from 1.3 cm to 3.0 cm. Again the maximum variation was greater than or equal to that obtained after a 2 litre infusion (cases 1 and 4; table).

Variation in girth with volume (cm)

Case No	Before infusion	After infusion of:		Change after 2 l infusion
		1 l	2 l	
1	77.5	80.0	80.0	2.5
2	118.0	119.0	121.5	3.5
3	86.5	90.0	92.5	6.0
4	88.0	90.0	91.0	3.0
5	86.5	90.0	94.0	7.5
6	106.5	110.5	111.5	5.0

Comment

Intra-abdominal bleeding may require urgent surgery to save life. Measurement of abdominal girth is sometimes used as one of the many indicators of such bleeding, but London stated that late swelling of the belly is more likely to mean ileus than intra-abdominal bleeding.¹

There are several other factors, apart from bleeding, which may cause abdominal distension. The bowel may become distended due to ileus which may be secondary to the initiating trauma or to various anaesthetic and narcotic drugs used in the treatment of that trauma. Pain and fear at the time of injury may cause air swallowing, thus adding to the distension. The volume of the bladder is often neglected and may be an important factor, particularly after infusion of large volumes of fluid and in inebriated patients. Fluid may also accumulate in the abdomen due to transudation with any inflammatory process, including visceral perforation. Further, if used in the patient with thoracic injury, and especially with positive end expiratory pressure ventilation, diaphragmatic splinting may erroneously accentuate abdominal distension.

We have shown that in uninjured people observer and diurnal variation may be greater than the increase in girth after infusion of two litres of fluid. Our findings suggest that an increase in girth may occur due to bleeding but that large volumes are required to produce a clear increase, if observer error and diurnal variation are considered. Hence we think that this measurement is of little clinical value in the assessment of intraperitoneal bleeding and that it may distract the unwary from more sensitive haemodynamic indicators of blood loss.

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¹ London PS. *A practical guide to the care of the injured*. Edinburgh: E & S Livingstone, 1967:647.

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