Summary points

- septic arthritis in an adult often has a predisposing factor
- group B streptococcal septic arthritis in a woman should raise the possibility of a genitourinary source

Organisms isolated from septic joints in pregnancy include *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Mycoplasma hominis* and our case of group B streptococcus.

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Causes of diarrhoea in patients with hypogammaglobulinaemia

Sir,
Giardiasis is considered the commonest identifiable cause for diarrhoea in patients with hypogammaglobulinaemia.^{1,2} We recently reviewed the records of the patients with hypogammaglobulinaemia and diarrhoea treated at our institution during the past 12 years and the results did not conform with this widely accepted notion.

Eight adult patients (six males, two females; ages ranging from 18 to 54 years) presenting with hypogammaglobulinaemia and diarrhoea were evaluated between 1982 and 1993 at the Gastroenterology Section of the Hospital das Clínicas de Ribeirão Preto (São Paulo, Brazil). The relevant data are summarised in the table.

Giardia lamblia was the unique pathogen detected in four patients. Although a seven-day course of metronidazole caused disappearance of *G lamblia* from the stools and/or duodenal aspirate in all four, clinical response

to treatment was seen in only two of them. Patient 8, a 54-year-old man, presented with a two-year history of chronic diarrhoea and a 20-kg weight loss. *Isospora belli* cysts were found in a stool sample, but results of culture and parasitic studies for bacteria and other common pathogens, including *G lamblia*, were negative. Relevant results of further investigations were: low serum immunoglobulin levels (IgG 310 mg/dl, IgA 20 mg/dl, and IgM 32 mg/dl), high faecal fat (19 g/24 h), and radiologic evidence of malabsorption. Oral trimethopim-sulfamethoxazole (140 mg/day), was started and resulted in resolution of diarrhoea within 48 hours, leading us to maintain the treatment for 30 days. Stool examination on days 7, 8, and 20 of therapy revealed cysts of *G lamblia* but was negative for other pathogens. Taking into account the improvement of the patient and with his consent, *G lamblia* treatment was not immediately given. On day 45, when the patient had gained 13 kg and was asymptomatic, a seven-day course of metronidazole, 1.5 g/day, was given with no apparent effect.

G lamblia was not detected in three patients; two of them had other pathogens detected in stool samples and had good clinical responses to treatment.

Although our findings are consistent with the notion that *G lamblia* infestation is commonly associated with hypogammaglobulinaemia,^{3,4} they indicate that giardiasis may be innocuous for hypogammaglobulinaemic patients with diarrhoea, and the diarrhoea may be related to pathogens other than *G lamblia*. As a corollary, the search for potential causes of diarrhoea in hypogammaglobulinaemic patients should not cease if *G lamblia* is found in the stools. This notion is particularly important when evaluating patients living in poor sanitary conditions, thereby at an augmented risk of infection by several pathogens.

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Table Summary of clinical data

Patient no	Characteristics of the diarrhoea	Identified pathogen	Treatment	Clinical response to treatment
1	intermittent, moderately severe	<i>G lamblia</i>	metronidazole	none
2	steady, moderately severe	<i>G lamblia</i>	metronidazole	complete
3	steady, watery, severe	<i>S stercoralis</i>	cabendazole	complete
4	steady, steatorrhea, severe	<i>E coli</i> (in jejunal aspirate)	tetracycline	partial
5	intermittent, mild	<i>G lamblia</i>	metronidazole	complete
6	steady, watery, moderately severe	<i>Shighella flexneri</i> (in stools)	trimethopim-sulfamethoxazole	complete
7	intermittent, mild	<i>G lamblia</i>	metronidazole	none
8	steady, severe, steatorrhea	<i>Isospora belli</i> + <i>G lamblia</i>	trimethopim-sulfamethoxazole	complete

Polyorchidism: causation and management

Sir,
Polyorchidism is a uncommon condition with only 90 cases having been reported in the accessible literature since 1670.¹⁻⁵ It is an anomaly which should be considered when assessing scrotal masses.

Case report

A 34-year-old man presented because of increased frequency and severity of the left-sided scrotal discomfort he had been having for many years. Two smooth swellings had been noted on the left side 20 years previously, one of which was thought to be an encysted hydrocoele of the cord. On this occasion two discrete smooth non-transilluminating masses were felt in the left scrotum and polyorchidism was diagnosed. At operation two small but normal looking testes were found on the left side (figure). The large upper and smaller lower testes shared a common epididymis. A single vas arose from the epididymis near the lower testis. Each testis had a separate blood supply. Biopsy of the testes showed normal spermatogenesis. The testes were fixed to each other and the tunica. At follow-up six months later the patient had had no further pain.

Comment

Embryologically, polyorchidism, or testicular duplication, is thought to result from transverse division of the urogenital ridge between the fourth and sixth week. The mesonephric tubules and duct are not involved, which explains the most common form of duplication in which there are two testes, a common epididymis and single vas, as in the case reported here. Complete duplication of testes, vasa and blood supply is extremely rare and is thought to be due to longitudinal division of the genital ridge and associated mesonephric tubules.¹

Most patients present with a mass which may or may not be causing pain. Polyorchidism is rare but can be diagnosed clinically and differentiated from cysts, lipomata, and tumours. The diagnosis can be confirmed by ultrasonography.¹⁻³ The commonest associated abnormalities are maldescent (15-50%), which can affect either or both testes, and inguinal hernia (30%).⁵ Torsion has occurred in 15% of reported cases and

Figure Operative photograph showing the larger upper testis connected to the smaller lower testis by the common epididymis. The single vas is marked by the steel pointer

Complications of polyorchidism

• maldescent	40%
• torsion	15%
• inguinal hernia	30%
• hydrocoele	9%
• malignancy	6%

hydrocoele in 9%.^{1,5} The incidence of malignancy is about 6%, with one seminoma, three teratomas and one rhabdomyosarcoma occurring in reported cases.^{1,4} The risk of malignancy is probably related to the presence of dysplastic germinal epithelium and to maldescent which is similar to nonduplicated testes.

In most of the reported cases up until the 1980s¹ either one or both of the duplicated testicles were removed, many without any specific indication. In this case, as in other recent reported cases,^{2,5} neither testis was removed and both were fixed to prevent torsion. In our view there is no need to remove either testicle if they look normal, and particularly if the biopsy showed normal epithelium, as neither testicle is at higher risk of malignancy and monitoring is so easy. If the diagnosis can be made by ultrasonography¹⁻³ exploration is unnecessary, if the testes are normal and the patient is asymptomatic.

Three testicles can be of benefit, as they were to a man thus equipped who was granted permission by the fourteenth century Pope to have two wives.⁶

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Doxorubicin-induced cardiotoxicity

Sir,

The report of Sriskandan *et al.*¹ highlights a major problem in the use of doxorubicin in curative malignancies. In their discussion of various strategies which have been tried to identify individuals at risk of doxorubicin-induced cardiotoxicity they omitted to mention the use of clinical pharmacology. In a

study of doxorubicin metabolites, Cummings *et al.*² found marked inter-patient variation in the pharmacokinetics of adriamycinol 7-deoxyglycone (the stable end-product of damaging anthracycline semiquinone drug-free radicals). Two patients out of 25 had high levels of adriamycinol 7-deoxyglycone and both developed clinical cardiac failure with total cumulative doses of doxorubicin below 300 mg/m. Subsequent animal studies showed the pharmacokinetics of adriamycinol 7-deoxyglycone follows closely its formation in the heart.³ Unfortunately as clinicians we have not tested this strategy on a large number of patients. Perhaps here is a predictive test of doxorubicin cardiotoxicity waiting to be used.

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Ciprofloxacin - induced glottic angioedema

Sir,

Ciprofloxacin is a synthetic fluorquinolone active *in vitro* against most Gram-negative bacteria (including Enterobacteriaceae and *Pseudomonas aeruginosa*), Gram-positive bacteria (including penicillase-producing, nonpenicillase-producing, and methicillin-resistant staphylococci) and against *Chlamydia*, *Mycoplasma*, *Mycobacterium*, *Plasmodium* and *Rickettsia*.¹ From a dermatological point of view, rash, pruritus, and photosensitivity reactions may appear in less than 1% of patients receiving multiple doses of ciprofloxacin.² To our knowledge and after extensive medical literature review (Medline 1970-94), no cases of ciprofloxacin-induced glottic angioedema have been previously reported.

A 50-year-old man with a past history of type 1 diabetes and hypertension (treated with captopril) developed angioedema with involvement of the upper airway while receiving intravenous ciprofloxacin for urinary tract infection at the emergency room in our hospital. From 30 to 60 minutes after starting an intravenous infusion of 400 mg ciprofloxacin lactate, the subject experienced generalised pruritus, erythema, and prominent facial, lip and genital swelling with upper dyspnea. Four hours later, the patient noted a change in voice with hoarseness, inspiratory stridor, and asphyxia. An otolaryngologic evaluation showed laryngeal oedema and endotracheal intubation was needed. Epinephrine, high-dose intravenous corticosteroids, antihistamines, and oxygen were administered. The tube remained in place for five days until the episode was abated. Ciprofloxacin and capto-

Allergic reactions to ciprofloxacin

- urticaria
- fixed drug eruption
- toxic epidermal necrolysis
- angioedema

pril were withdrawn and the patient, who declared previous good tolerance to both drugs, was studied at the Allergy unit. C4, C3 and C1-inhibitor levels were repeatedly normal. Total serum IgE value was 160 IU/ml. Prick tests with ciprofloxacin, norfloxacin, and pipemidic acid were negative. Intradermal tests with 0.04 and 0.4 mg/ml ciprofloxacin were positive (papulae of 4 × 5 mm and 9 × 8 mm, respectively). Ten control subjects gave no reaction. Intradermal tests with norfloxacin and pipemidic acid and an oral challenge with captopril were negative.

Few cases of suspected allergic reactions to ciprofloxacin have been described (see box).³⁻⁵ Possible cross reactivity with other quinolones has been suggested.^{3,4} In the reported patient, the presence of a positive intradermal test with ciprofloxacin, together with previous good tolerance of the same drug, points to an IgE-mediated mechanism. A possible cross-reactivity with other quinolones cannot be ruled out because, even though cutaneous tests with norfloxacin and pipemidic acid were negative, definitive challenge tests were not done due to the severity of the reaction.

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