Comment

Traditionally the pain of renal colic has been relieved by administration of narcotic analgesics, sometimes combined with a spasmolytic agent. This study confirms the findings of Lundstam *et al* and Naveh that diclofenac sodium 75 mg intramuscularly is effective in relieving the pain of acute renal colic.[4,5]

Because of the addictive properties of opiate drugs their storage and use cause several legal and practical problems. Substitution of an effective non-narcotic agent would alleviate these problems, both for accident and emergency departments and for general practitioners, who may be called to see patients with renal colic at home.

We conclude that diclofenac sodium 75 mg intramuscularly is more effective than pethidine 100 mg intramuscularly in the management of acute renal colic and has fewer side effects.

The diclofenac sodium (Voltarol) used in this study was kindly supplied by Geigy Pharmaceuticals.

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Diarrhoea due to Clostridium difficile associated with antibiotic treatment in patients receiving dialysis: the role of cross infection

Diarrhoea due to *Clostridium difficile* associated with treatment with antibiotics has been described among patients receiving peritoneal dialysis,[1] and cross infection is thought to be important.[2] We describe an outbreak of diarrhoea associated with *C difficile* in patients undergoing haemodialysis and continuous ambulatory peritoneal dialysis in which a "fingerprinting" technique of typing strains was used to investigate the possibility of person to person spread.

Patients, methods, and results

The table gives details of 18 patients from whom *C difficile* was isolated on stool culture. All developed diarrhoea while inpatients in the medical renal unit, Royal Infirmary, Edinburgh, between July 1983 and April 1984. *C difficile* had been isolated from only one patient with renal disease in the previous six months.

C difficile was cultured and identified as previously described[3]; strains were identified by the fingerprinting method of Poxton *et al*, using SDS-polyacrylamide gel electrophoresis of surface proteins extracted with edetic acid followed by Coomassie blue staining and an immunoblot probe using rabbit antiserum to cells of *C difficile* NCTC 11223 killed with ultraviolet light.[4] When *C difficile* was isolated patients were given oral vancomycin (500 mg every six hours) and other antibiotics were withdrawn if possible. Diarrhoea resolved in 12 patients. Four patients died during or shortly after treatment; all were severely debilitated by pre-existing medical conditions. The fingerprinting technique identified 13 different strains of *C difficile*. One strain occurred in five subjects (cases 12, 13, 14, 15, and 18) and one strain in two (cases 7 and 11); the 11 other strains occurred in only one patient each.

Comment

Cross infection with *C difficile* in hospitals has been clearly shown previously,[4] and seemed likely in this series of cases among our patients receiving dialysis; all had been inpatients in the medical renal unit, with considerable overlap in their periods of stay in hospital, and the rate of isolation of *C difficile* increased abruptly over 10 months. Standard measures to prevent spread of the organism were taken—namely, isolation when feasible, use of gown and gloves when working with patients, and careful attention to personal hygiene.

Isolation of patients was limited by lack of space and the specialised nursing that dialysis requires. The five patients from whom the same strain was isolated were probably cross infected; all were nursed in one of two adjacent cubicles, the first four within one month. The isolation of 13 different strains of *C difficile* appears, however, to exclude cross infection as the major mechanisms by which organisms were acquired during this outbreak. Among patients undergoing dialysis who have uraemia the frequent use of broad spectrum antibiotics, defective immunity, abnormal nutrition, and perhaps other changes in gut flora or mucosal defence mechanisms might combine to permit acquisition of *C difficile* or to promote its selective growth.[5] After this outbreak we tried to give as narrow a range of antibiotic treatment as possible and avoided oral antibiotics, particularly oral cephalosporins; the incidence of isolation of *C difficile* and related clinical disease returned to a low level.

We recommend early selective faecal culture for *C difficile* in any patients undergoing dialysis who have diarrhoea. Our findings suggest that cross infection with *C difficile* may occur in patients receiving dialysis, although it is not always the major mechanism of acquisition of this organism. It would be unwise to abandon standard measures against cross contamination, and it should be appreciated that patients undergoing dialysis may be particularly prone to infection with *C difficile*.

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Details of patients from whom C difficile was isolated

Case No	Age (years)	Sex	Type of dialysis	Type of infection	Antimicrobials given	Month when strain isolated	Outcome
1	61	F	CAPD	Peritonitis	None	July 1983	Resolved
2	60	F	CAPD	Peritonitis	Cephradine, flucloxacillin, tobramycin	July 1983	Died
3	48	F	Haemodialysis	None	None	July 1983	Remained well
4	15	F	CAPD	Peritonitis	Cephradine, tobramycin	August 1983	Died
5	56	F	Haemodialysis	Wound	Cefuroxime, metronidazole	August 1983	Diarrhoea continued
6	59	F	Haemodialysis	Arteriovenous fistula	Flucloxacillin, benzylpenicillin	August 1983	Resolved
7	61	M	CAPD	Peritonitis	Flucloxacillin, metronidazole, ticarcillin	August 1983	Resolved
8	69	F	CAPD	Peritonitis	Cephradine	September 1983	Resolved
9	59	M	Haemodialysis	Mastoid	Flucloxacillin, benzylpenicillin	October 1983	Resolved
10	50	M	Haemodialysis	Pericolic abscess	Cephradine, cefuroxime, metronidazole	October 1983	Resolved
11	68	F	CAPD	Peritonitis	Tobramycin	November 1983	Resolved
12	71	F	CRF	None	None	January 1984	Resolved
13	73	M	Haemodialysis (acute)	Pneumonia	Ampicillin, cefuroxime, erythromycin, metronidazole, gentamicin, benzylpenicillin	January 1984	Resolved
14	33	F	Haemodialysis	Urinary tract	Co-trimoxazole	February 1984	Resolved
15	63	F	Haemodialysis (acute)	Ischaemic bowel	Cefuroxime, metronidazole, tobramycin	February 1984	Died
16	64	F	CAPD	Peritonitis	Flucloxacillin	February 1984	Resolved
17	60	M	CAPD	Peritonitis	Flucloxacillin	March 1984	Resolved
18	66	F	Haemodialysis	Arteriovenous fistula	Cephradine, cefuroxime, tobramycin	March 1984	Died

CAPD = Continuous ambulatory peritoneal dialysis. CRF = End stage chronic renal failure.

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Retention of urine in occult anorectal herpes

Urinary retention in patients with symptomatic anogenital herpes simplex infection is well documented. We report two cases of micturition difficulties in patients with occult anorectal infection.

Case reports

Case 1—A 23 year old man was transferred to the Whittington Hospital from HM prison with acute urinary retention which necessitated catheterisation. He gave a five day history of dysuria without urethral discharge and denied anal discomfort or discharge. The anus and perianal area appeared normal but proctoscopy showed a severely inflamed rectal mucosa. Both rectal and urethral smears contained multiple polymorphs but no organisms on Gram staining and were negative on culture for *Neisseria gonorrhoeae* and *Chlamydia trachomatis*. The rectal culture was, however, positive for herpes simplex virus. The catheter was removed after 24 hours but was reinserted because of continued retention. He required catheterisation for a further nine days, after which he managed to pass urine without further difficulty. The patient subsequently absconded from hospital and was not seen for follow up.

Case 2—A 30 year old homosexual man attended the department of genitourinary medicine on 6 April with a sore throat, headache, and enlarged cervical lymph nodes. One week later he developed perianal discomfort. Examination showed two small, dry perianal vesicles but no inguinal lymphadenopathy. Culture of the vesicles for herpes simplex virus was negative. Initial serological studies yielded a positive treponema haemagglutination test result and positive rapid plasma reagin test at a titre of 1/256, and so treatment for secondary syphilis was started in the form of procaine penicillin injections daily for 15 days. On 18 April he complained of difficulty in passing urine over the previous 48 hours but denied anal discomfort or discharge. The external genitalia and perianal area appeared normal but the bladder was enlarged to the level of the umbilicus. There was no sensory loss and the bulbocavernosus reflex was present. The rectal mucosa looked inflamed and Gram staining showed multiple polymorphs but no organisms. Cultures were negative for *N gonorrhoeae* and herpes simplex virus. He was admitted to hospital and continued to have difficulty in initiating micturition with a lack of sensation. The stream was very weak and he managed to pass only small amounts of urine at a time. Bethanechol chloride by mouth was prescribed with some improvement. Optimal response was achieved when the dose was increased to 20 mg four times a day. The medication needed to be continued for 12 days to control his symptoms. On 30 April repeat proctoscopy showed a normal rectal mucosa. Rectal swabs on this occasion were negative for *N gonnorrhoaea* but positive for herpes simplex virus.

Comment

Herpes simplex virus infection of the anorectum in homosexual men was first described by Astruc in 1736. It is now considered to be the commonest cause of non-gonococcal proctitis in male homosexuals.[1] Asymptomatic herpes proctitis has been mentioned recently, though severe pain, tenesmus, and rectal discharge usually dominate the clinical picture.[2] Urinary retention associated with acute anogenital herpes is well described; however, in these cases there were easily recognisable features of herpetic infection.[3,4]

We report what appear to be the first documented cases of urinary retention and micturition difficulties associated with occult herpes simplex virus infection. Evidence of anorectal infection was suspected and was deliberately pursued, repeatedly in the second patient.

The development of urinary retention in some patients associated with paraesthesia of the second and third sacral dermatomes, neuralgia, constipation, and impotence has suggested a lumbosacral radiculomyelopathy or a localised meningomyelitis.[3,4] Herpes simplex virus is neurotropic and has been isolated from trigeminal, vagal, superior cervical, and sacral ganglions.[5]

The use of bethanechol chloride in the second patient greatly helped to relieve his urinary difficulties and probably obviated the need for catheterisation. Bethanechol is a parasympathomimetic agent with the muscarinic properties of acetylcholine and has not to our knowledge been used previously in this setting. Whether the use of systemic acyclovir will shorten the course of neurogenic difficulties in micturition remains to be assessed.

In cases of urethral and vulval herpes, in addition to a neuropathic cause for urinary retention, a reflex inhibition secondary to severe pain on micturition may play a part.[3] Relief of pain by local or systemic measures appears to be the appropriate management of such cases.

In summary, we emphasise the need to take a full sexual history and carefully and repeatedly to search for herpes simplex virus infection of the urethra and anorectum in all young patients with urinary retention or micturition difficulties.

We thank Mr Russell Lock for permission to report the first patient and Dr Elizabeth Paice for her encouragement.

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Irreversible pulmonary hypertension after treatment with fenfluramine

Pulmonary hypertension was associated with the appetite suppressant aminorex,[1] but attempts to induce it in animals have failed.[2] Pulmonary hypertension that resolved when treatment was stopped was also described in two patients taking the anorectic agent fenfluramine.[3] We report severe irreversible pulmonary hypertension in a patient treated with fenfluramine.

Case report

A 58 year old woman was referred for investigation of worsening dyspnoea and right heart failure. Examination of the heart and lungs, an electrocardiogram, and a chest x ray film had been normal eight years previously when she had attended for intermittent claudication. Her weight then had been 72 kg and height 154 cm. She had next been seen aged 54 complaining of exertional dyspnoea. An apical systolic murmur was noted, and an electrocardiogram showed peaked P waves and an increase in right ventricular voltage. Diuretics conferred some benefit. Between the ages of 46 and 56 she received seven one month courses of fenfluramine and her maximum weight was 80·5 kg. She had smoked 20 cigarettes a day for over 20 years.

On examination she weighed 68·5 kg and was peripherally and centrally cyanosed. Blood pressure was 140/90 mm Hg, and her jugular venous pressure was raised above the angle of the jaw. There was a parasternal lift and a grade 3/6 pansystolic murmur maximal at the lower end of the sternum. She had pulsatile hepatomegaly and peripheral oedema, and the lungs were clear. An electrocardiogram showed sinus rhythm, biatrial enlargement, an axis of +120°, and incomplete right bundle branch block. A chest radiograph showed a cardiothoracic ratio of 170:295; prominent hilar vessels, and clear lung fields. Routine