A loss in ultrafiltration or haemoperitoneum [4]. This did increase in permeability of the peritoneum to water causing the peritoneum, but what is available suggests it can cause an differentiating between fibrosis and residual tumour mass [3].

...and metastatic disease, and there are reports of successful treatment of renal transplant recipients with this drug [5]. However, due to the well documented nephrotoxicity of cisplatin, we chose to use carboplatin, and this caused no problems with graft function. The sequelae of chemotherapy on a transplanted kidney is not necessarily seen immediately and cases of renal deterioration up to 6 years post-chemotherapy have been reported, but after time it becomes difficult to identify whether the chemotherapy agent is the culprit. We also considered renoprotection using sodium thiosulphate and N-acetylcysteine [6], but were worried about reducing the anti-tumour properties of the drugs.

In summary this patient with a germ cell tumour had no PD problems after standard radiotherapy, but had an unusual presentation of recurrence. PET scanning is strongly suggested if recurrence is suspected. Transplantation did not interfere with modified standard chemotherapy, with a good outcome from tumour and transplant.

Conflict of interest statement. None declared.

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doi:10.1093/ndt/gfl108

Advance Access publication 23 August 2005

Severe theophylline intoxication: a delay in charcoal haemoperfusion solved by oral activated charcoal

Sir,

During the 1980s, clinicians worldwide were more frequently confronted with patients experiencing the effects of a theophylline intoxication than nowadays. However, while theophylline is still on the market, intoxications of theophylline can occur...
in chronic users as well as in acute overdoses [1]. The haemodynamic and neurological side effects in particular can result in significant morbidity and mortality [2]. Haemoperfusion with a charcoal filter is an established and efficient technique for removal of theophylline [3]. However, oral activated charcoal can also be very effective in lowering serum levels of theophylline, as we experienced while treating a patient with an overdose.

Case. A 22-year-old female was brought to the Emergency Department 6 h after ingestion of 20 g of sustained-release theophylline in a suicide attempt. She had not used theophylline before. The patient complained of nausea and experienced palpitations. Further medical history was insignificant. Laboratory investigation revealed a hypokalaemia (2.4 mmol/l) and a theophylline serum level of 105 mg/l.

After admission to the intensive care unit, she was sedated, intubated and mechanically ventilated in order to administer charcoal by gastric tube as severe nausea and vomiting were unresponsive to anti-emetics. The charcoal was given in three doses, in a total dose of 150 g. To accelerate enteral passage, magnesium sulfate was given by nasogastric tube until charcoal was seen in the stool 2 h later. One hour after admission, the patient experienced severe hypotension and possible epileptic activity, treated with colloids, inotropes and pentobarbital, respectively.

Due to technical difficulties, there was a significant delay of 6.5 h in the start of haemoperfusion since the first measured theophylline serum level. During this time, the patient received only oral activated charcoal and the serum theophylline level dropped from 105 to 48 mg/l. Additional clearance by haemoperfusion induced a drop to 24 mg/l; at that time, haemoperfusion was stopped. The following day, sedatives were stopped and the endotracheal tube removed; she made a full recovery.

Discussion. Oral activated charcoal is a well-established therapy for treatment of theophylline intoxication [4]. The effects of ingested charcoal are multiple: in addition to decreasing gut absorption, the ingested charcoal results in transmural drug clearance from the systemic circulation [4,5]. The only contraindications for the use of oral activated charcoal are ileus or co-ingestion of caustics. Magnesium sulfate was given because cathartics can reduce the risk of bowel obstruction [5]. Cathartics also decrease the transit time of charcoal, thereby preventing reabsorption of theophylline. Intractable vomiting is one of the major reasons for failure of oral activated charcoal therapy. Besides respiratory failure, intractable vomiting can in itself be an indication for sedation and ventilatory support. In this case, oral activated charcoal was a very effective way to remove theophylline, resulting in a >50% reduction in the theophylline serum level.

Conflict of interest statement. None declared.


Sir,
Periodontal disease causing premature tooth loss is common and aggressive in younger and still dentulous patients undergoing maintenance haemodialysis (HD) [1]. Recent studies showed that hepatocyte growth factor (HGF), a pluripotent, ubiquitous and mostly regenerative cytokine, is strongly involved in the pathogenesis and progression of periodontitis in the general population [2]. In brief, HGF excessively stimulates the growth of gingival epithelial cells into the periodontal pockets and thus impairs proper regeneration of deep collagenous structures of the periodontium [2].

Recently, we showed that both unfractionated heparin and low-molecular-weight heparin enoxaparin caused a marked up-regulation of plasma HGF [3]. The increase amounted to ~1300% from baseline after 10 min of HD and to ~400% after 180 min, mostly due to HGF release from glycosaminoglycans present on the endothelial surface and within the extracellular matrix. Therefore we hypothesized that HGF released in such striking amounts into circulating blood could penetrate into the periodontium during 4–5 h of thrice weekly HD treatment and propagate periodontal disease.

We studied 26 clinically stable patients [aged 51 ± 12 years; 7 females; dialysis for a median of 27 months (range, 2–206 months)] who underwent bicarbonate HD sessions and were anticoagulated with enoxaparin (mean dose, 0.64 ± 0.15 mg/kg). HD session duration was 4–5 h. Each subject had at least two or more teeth which exhibited periodontitis but were not indicated for extraction in minimum one teeth-sextant, according to the WHO recommendations on the performance of periodontal studies [4]. Before the morning HD session, the patients remained fasting; then a minimum of 5 ml of unstimulated whole saliva was collected by the spit-out method into sterile vessels after 10 min oral rinsing with distilled water. Subjects were asked not to eat and drink during the last 3 h of the HD treatment. Then saliva was collected in the same way during the last hour of the HD session. The samples were kept on melting ice for no longer than 1 h; subsequently they were centrifuged at 3800 rpm for 10 min. The supernatant (middle 1/3) was collected and stored at −70°C until assay with an established immunoenzymatic HGF kit, as described previously [3].

Median pre-dialysis saliva HGF level was 1.06 (0.02–9.65) ng/ml, while for the ‘last hour’ samples we found a median value of 0.68 (0.8–7.2) ng/ml. The remarkable 30% decrease in salivary HGF concentration nearly