Esophageal Ulceration Due to Alendronate

Alendronate and other bisphosphonates, which are powerful inhibitors of bone resorption (1), administered per os at doses of 40 mg/day can cause gastric and esophageal disturbances within months of therapy (2). No endoscopic documentation of these side effects has so far been published. We report here a case in which alendronate appears to have caused extensive esophageal ulcers at doses, and within a period of time, well below those previously described. A 33-year-old man was admitted to the hospital for epigastric and retrosternal pain, nausea and vomiting, and severe dysphagia for solid food which had commenced a week earlier. Due to a diagnosis of juvenile osteoporosis, the patient was being treated with calcium per os (500 mg b.i.d.) and alendronate sodium C 5 mg/day, for a total of two weeks). He did not smoke, drink alcohol, or take any other medication. An upper gastrointestinal endoscopy revealed an extensive esophageal ulceration at 30 cm (Figure 1) and another at the level of the gastroesophageal junction. The biopsies did not show any micro-organisms. Endoscopy also showed a small hiatal hernia and a spastic pylorus. Serology for recent herpesvirus, cytomegalovirus and *Candida* infections was negative, and there was no evidence of immune deficiency. We stopped the alendronate treatment and immediately started therapy with sucralfate gel and omeprazole, with rapid general improvement of the symptoms. A repeat endoscopy showed complete healing of the lesions. After six months of follow-up without therapy, the patient is still well. We attribute the esophageal ulceration to the alendronate treatment, since no other known causes of the pathology were present. It is relevant that alendronate appears to cause specific esophageal damage, with complete sparing of the stomach and duodenum. It is possible that the small hiatal hernia may have played a role, causing esophageal reflux of the drug. Indeed, the detergent properties of this medication (3), together with its prolonged and repeated contact with the mucosa, may lie behind the side effect. If confirmed, our experience suggests caution in the use of this agent, especially in patients with gastroesophageal reflux or in patients lying horizontally in bed due to their bone disease.

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Addendum during correction: After our note was accepted a similar report on gastrointestinal side effects of alendronate was published in the Am. J. Gastroenterol. 1995; 90: 1889–90 by Maconi G, Bianchi-Porro, G.

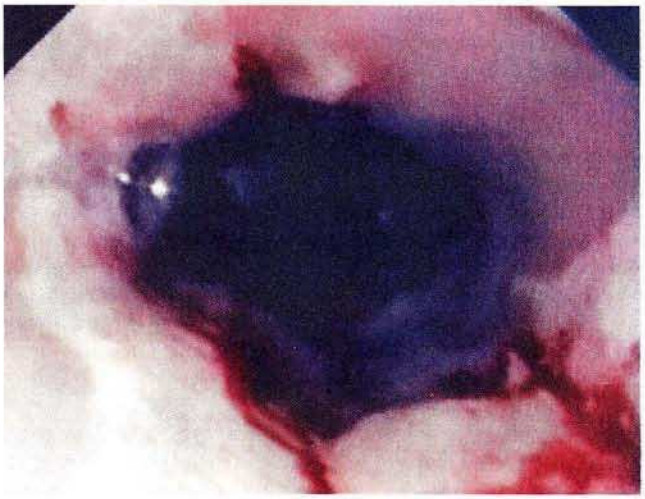

Figure 1: Endoscopic appearance of the esophageal mucosa after approximately two weeks of therapy with alendronate. Note the extensive ulceration, with a map pattern. On admission, the initial examination was normal, except for mild epigastric tenderness. The patient was afebrile, with no signs of local or systemic infection. Routine examinations and other tests, including CPK and LDH, osteocalcin and an ECG were normal.

References

1. Fleisch H. Bisphosphonates: a new class of drugs in diseases of bone and calcium metabolism. Rec Res Cancer Res 1989; 116: 1–28.
2. Adami S, Mian M, Gatti P, et al. Effect of two oral doses of alendronate in the treatment of Paget's disease of bone. Bone 1994; 15: 415–7.
3. Fleisch H. Bisphosphonates: a new class of drugs in diseases of bone and calcium metabolism. In: Baker G, ed. Handbook of experimental pharmacology. Berlin: Springer, 1988: 441–66.

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