

Treatment of Refractory Symphysis Pubis with Intravenous Pamidronate

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ABSTRACT. Osteitis pubis is a noninfectious painful inflammatory disorder of the symphysis pubis. Etiologic factors include urologic procedures, abdomino-perineal and gynecological surgery, and spondyloarthropathies, although many cases are idiopathic. Most respond to conservative measures consisting primarily of rest and analgesic/antiinflammatory agents. We describe 3 cases, 2 with idiopathic osteitis pubis and one that was associated with a spondyloarthropathy, that failed to respond to conservative measures but experienced clinical remission with 3 to 6 monthly courses of intravenous pamidronate. Remission was also evident in 2 patients on isotope bone scan. Followup has revealed no recurrence. Intravenous pamidronate may constitute a safe and effective treatment option for patients with refractory osteitis pubis. (J Rheumatol 2001;28:2754-7)

Key Indexing Terms:
OSTEITIS PUBIS

PAMIDRONATE

TREATMENT

Osteitis pubis is a painful, noninfectious, inflammatory disorder of the symphysis pubis involving the pubic bone, symphysis, and surrounding structures. It was described by Legueue and Rochet¹ in 1923; Beer² reported 5 cases that developed after suprapubic operations. Further case reports have described this disorder following urologic procedures such as prostatectomy, cystectomy, and transrectal prostate needle biopsy^{3,4}. Others have described cases in association with gynecological surgery, e.g., Marshall-Marchetti-Krantz procedure, retropubic urethropexy⁵, following abdomino-perineal resection and inguinal herniorrhaphy⁶, and as an obstetrical complication during both ante partum and post partum periods⁷. In addition, osteitis pubis has been described in athletes⁸ and in association with certain rheumatic disorders, particularly spondyloarthropathies (SpA)⁹.

Considerable controversy exists regarding optimal management. Some have advocated immobilization with at least bed rest, but most of the described treatments have been directed toward the associated inflammation. Successful outcomes have been described with both nonsteroidal and corticosteroid antiinflammatory therapies¹⁰. Despite this, some patients continue to have disabling refractory symptoms ultimately requiring surgical intervention employing procedures such as curettage, wedge resection, and symphyseodesis with compression plate fixation¹¹.

Histopathological evaluation has revealed the presence of chronic nonspecific inflammatory tissue composed of plasma cells and lymphocytes with areas of fibrosis and focal cartilaginous metaplasia¹¹. Bisphosphonates are synthetic pyrophosphate analogs shown to be effective in a variety of metabolic disorders of bone including osteoporosis, Paget's disease, bone metastases, fibrous dysplasia, and Charcot's arthropathy. There is now preliminary evidence that they may also be effective in the presence of osteitis, as recently described in patients with SpA^{12,13}. This is consistent with observations in animal models of chronic inflammation demonstrating antiinflammatory effects¹⁴. Their ability to selectively localize to sites of active bone turnover, their potential antiinflammatory properties, and their favorable side effect profile associated with at least a decade of widespread clinical use are features that make these agents attractive candidates for treatment of symphysis pubis unresponsive to simple analgesic/antiinflammatory therapy. We have examined the antiinflammatory properties of the aminobisphosphonate, pamidronate, in patients with SpA¹², and we employed the same regime of therapy in 3 consecutive patients with symphysis pubis and refractory symptoms unresponsive to standard conservative therapy.

CASE REPORTS

Case 1. A 74-year-old woman presented to the rheumatology outpatient clinic in July 1999 with a 5 year history of pain in the pubic region, exacerbated with activity but also associated with rest pain and nocturnal symptoms. Symptoms were partially relieved by an acetaminophen/codeine combination. She was allergic to aspirin, which induced asthmatic attacks. Examination was unremarkable apart from significant pelvic tenderness in the region of the symphysis pubis and bilaterally restricted hip abduction secondary to pain. A pelvic radiograph in March 1999 had shown chronic osteitis pubis, and a bone scan confirmed increased uptake in the symphysis pubis corresponding to the radiographic appearance. A bone mineral density assessment at this time had

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also shown osteoporosis. Laboratory investigations for osteoporosis were unremarkable apart from an elevated alkaline phosphatase at 136 u/l. The patient rated her score at 9.3 on a 10 cm visual analog scale (VAS) for pain.

She was prescribed 60 mg pamidronate given intravenously on a monthly basis for 6 months. Transient (24–48 h) arthralgia and myalgia were reported after the first 2 infusions. On followup in January 2000, her chronic pelvic pain had almost disappeared, being rated 1.8 on the VAS for pain. A followup bone scan in January 2000 showed no obvious change in uptake in the symphysis pubis although the alkaline phosphatase was now normal at 85 u/l. As of December 2000, she has had no recurrence of her pubic pain.

Case 2. A 35-year-old man was seen at the rheumatology outpatient clinic in October 1999. He presented with a 10 month history of bilateral groin pain, exacerbated with weight bearing and relieved by rest. He also had occasional low back pain with stiffness, although this was not particularly symptomatic. Analgesic and nonsteroidal antiinflammatory therapy was ineffective. Examination revealed tenderness overlying the symphysis pubis as well as the left adductor insertion. Left hip abduction was restricted secondary to pain. A pelvic radiograph in June 1999 had revealed bilateral grade 2 sacroiliitis and sclerosis at the pubic symphysis, while a bone scan in August 1999 had shown increased uptake in the symphysis pubis (Figure 1). He was given pamidronate 60 mg intravenously and noted substantial improvement after a single dose. He received 2 more intravenous infusions on a monthly basis. No significant adverse events were reported. A followup bone scan in June 2000 revealed complete resolution of activity in the symphysis pubis (Figure 1). As of December 2000 there has been no recurrence of symptoms.

Case 3. A 34-year-old woman presented to clinic with a history of post partum pelvic pain with fever and chills 11 years ago, positive blood cultures for beta-hemolytic streptococcus, and responding to intravenous antibiotics for 9 weeks. An isotope bone scan had shown increased uptake in both sacroiliac joints and she was diagnosed with septic sacroiliitis. The pain resolved and she returned to running after about 6 months. In late 1998, she developed increasing pain in the region of the pubic symphysis, first evident only with running but increasingly evident at rest. She had tried analgesics and nonsteroidal antiinflammatory agents without benefit. A pelvic radiograph in August 1999 revealed complete fusion of both sacroiliac joints and evidence of osteitis pubis, confirmed on isotope bone scan (Figure 2). Laboratory investigations including complete blood count, alkaline phosphatase, and erythrocyte sedimentation rate were unremarkable, although C-reactive protein was increased at 27.6 mg/l (normal < 8). She was HLA-B27 negative. Examination revealed pelvic tenderness and bilaterally restricted hip abduc-

tion secondary to pain. She started intravenous pamidronate 60 mg once a month for 3 months in February 2000. By May 2000, she had noted symptomatic improvement and a repeat bone scan revealed decreased uptake in the symphysis pubis (Figure 2). Intravenous pamidronate, 60 mg monthly, was given for an additional 3 months. Treatment was well tolerated with only transient arthralgia and myalgia after the first infusion. As of December 2000 there had been no recurrence of symptoms.

DISCUSSION

All 3 patients had symptoms considered typical for symphysitis pubis, namely, pain in the pelvic region extending to the inner thighs. Occasionally, the pain will radiate into the perineum, ischial tuberosities, and lower abdominal muscles, although this was not observed in any of our patients. Symptoms may also be aggravated with abdominal stress (e.g., coughing, sneezing, micturition, and defecation). All our patients had pain elicited by walking, assuming a standing position, and even sitting. No patient had a “waddling gait” said to be characteristic of this disorder and due to pain and a sensation of tightness in the adductor muscles.

On examination, all 3 patients had the characteristic tenderness over the symphysis pubis, with restricted abduction at the hip associated with adductor spasm.

Two of the 3 patients had typical bilateral involvement of the pubic bones on plain radiograph with loss of the smooth cortical periphery, reactive sclerosis, rarefaction, and superficial bone destruction. Two patients had > 10 mm separation of the symphysis. Previous reports have also described symphyseal instability demonstrated by movement of the symphysis of > 2 mm on step films, although this procedure was not invoked in our patients in view of the characteristic radiographic findings. Further, all patients had positive bone scan findings. Adductor enthesopathy could have been a factor in the pain experienced by the second patient, particularly as it is now well recognized that osteitis is commonly observed in

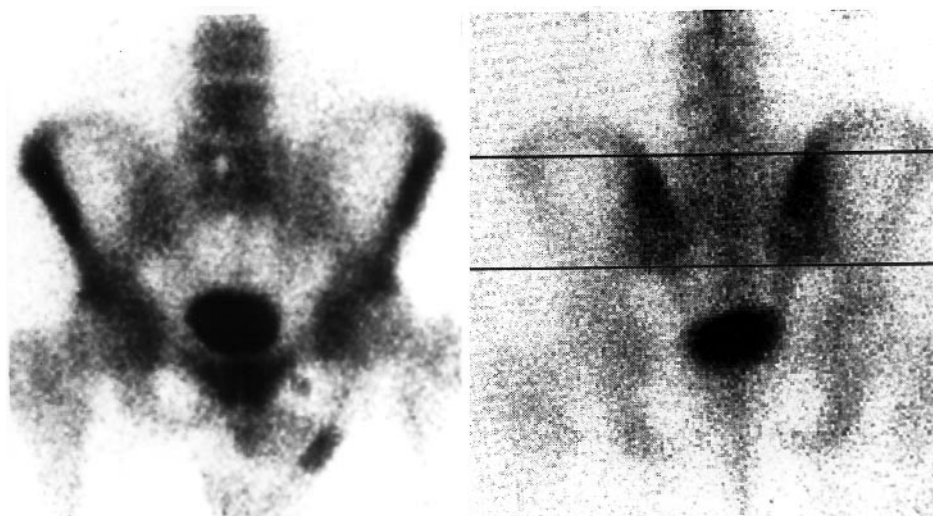


Figure 1. Isotope bone scan reveals increased uptake in the pubic bones adjacent to the symphysis pubis (left image) and resolution following 3 monthly IV pamidronate infusions (right image) in a 35-year-old man.

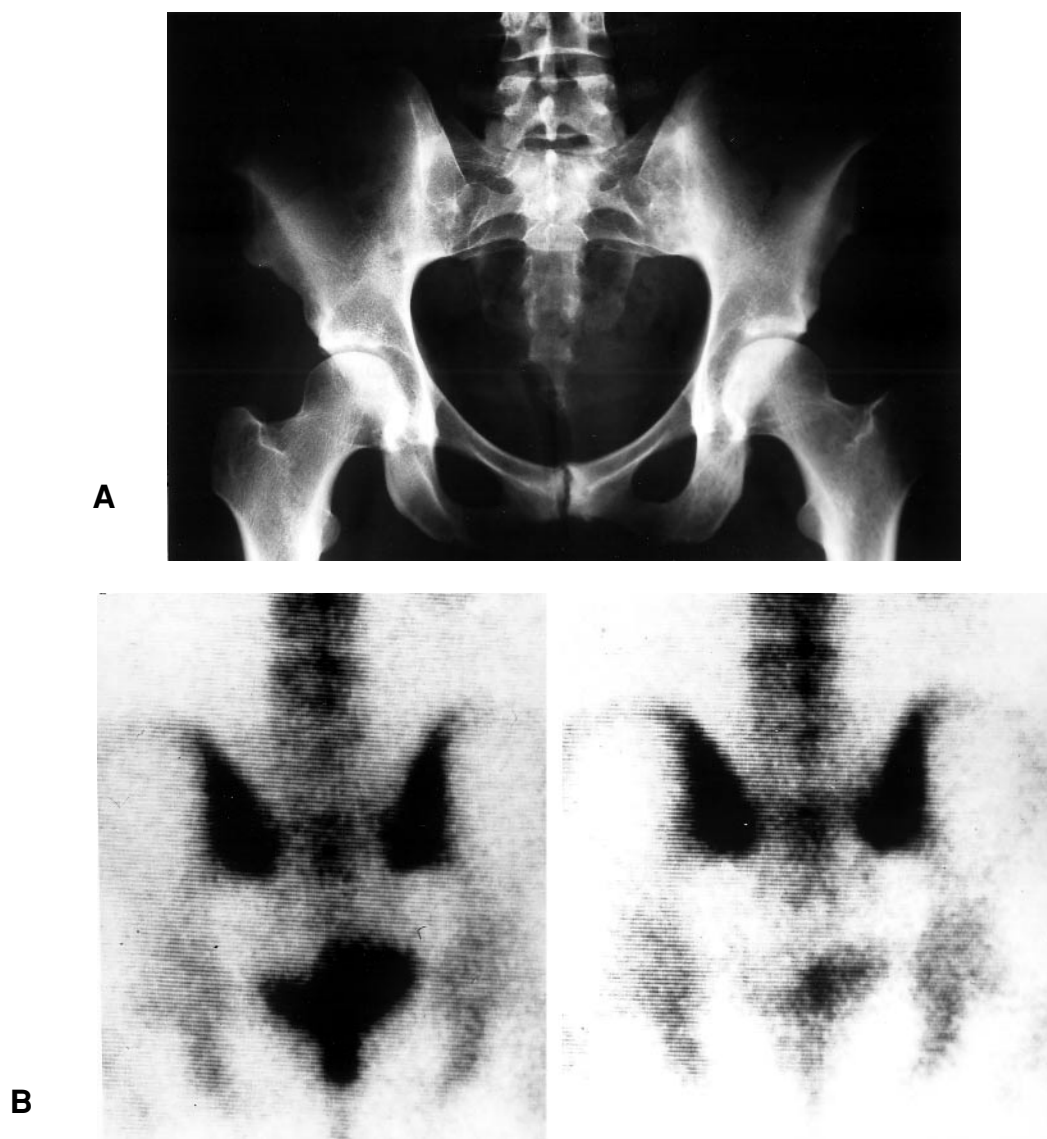


Figure 2. A. Plain pelvic radiograph reveals postinfectious fusion of the sacroiliac joints and sclerosis/erosion of the symphysis pubis. B. Isotope bone scan reveals increased uptake in the sacroiliac joints and symphysis pubis (left image). The right image shows resolution of symphyseal uptake after 6 monthly infusions of pamidronate.

adjacent marrow. The absence of sequestra and new bone formation in the context of symptomatology of several months' duration in the third patient effectively excluded the possibility of osteomyelitis, and bone biopsy was not considered. Pubic osteolysis, a destructive lesion of the pubic bone, associated with an abnormal reparative process is seen predominantly in elderly women with associated osteopenia, and may elicit diagnostic confusion with symphysitis pubis. However, reactive sclerosis is not observed in such patients radiographically.

The use of antiinflammatory agents in this disorder is primarily based on the hypothesis that it is a manifestation of a low grade infection in bone by organisms with low virulence potential. However, there are no reports of any culture posi-

tive cases. Of interest, it has been proposed that this disorder is a manifestation of a localized reflex sympathetic dystrophy (RSD). A number of reports, both uncontrolled and controlled, have now shown that bisphosphonates are beneficial in the symptomatic treatment of RSD¹⁵.

A significant limitation to the interpretation of our observations is that symphysitis pubis is a self-limiting disorder and, in view of its rarity, controlled clinical trials of novel therapeutic approaches are not feasible. However, the significant long lasting benefits observed with pamidronate in our 3 patients, together with its excellent safety profile, warrant further consideration in the treatment of persisting symptoms despite simple analgesic/antiinflammatory therapy. Further, although we chose pamidronate based on our experience with

its use in the osteitis associated with spondyloarthropathy, it is also possible that oral bisphosphonate therapy may be similarly efficacious.

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