Case Report

Post Biliopancreatic Bypass Arthritis. Dermatitis Syndrome

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Summary A case of arthritis dermatitis syndrome observed after a biliopancreatic bypass for morbid obesity is described. The syndrome had begun 10 days after surgery and involved the knees, ankles, elbows and wrists and erythema nodosum on the legs. After 15 days treatment with sulfasalazine and steroid the symptoms disappeared. The immunologic aetiology of the disease was postulated and the observation of the syndrome, for the first time, after a biliopancreatic bypass suggested that the manifestation of the disease is independent of the kind of the surgical procedures used for the treatment of the morbid obesity.

Key words: Biliopancreatic Bypass, Arthritis, Dermatitis.

INTRODUCTION

Morbid obesity is the most common nutritional disorder, since today, capable of inflicting psychological scars, increasing the risks for heart disease, and compromising pulmonary function. No single treatment has ever been both effective and long-lasting and several surgical procedures for morbid obesity were performed since thirty years ago (3-14). The most common techniques utilized are the jejunocolic anastomosis and the jejunoleal bypass (1,2,9,12). Several patients treated with jejunicolic anastomosis, however, reported metabolic disasters that induced discarding this procedure (13). Moreover, since the last ten years another surgical technique for the treatment of morbid obesity was utilized, the biliopancreatic bypass (15-17): It consisted of a combination of biliopancreatic diversion and gastric reduction (Fig. 1). Several complications after the bypass surgery are described.

Metabolic effects such as fatigue, diarrhoea, bloating, fluid and electrolyte imbalance, and vitamin deficiency are followed by an adaptation response due to a compensatory hypertrophy in the functioning segment with increased villous height, increased mucosal surface, and increased rate of absorption (9). Immunologic disorders after bypass are limited. While circulating immunocomplex levels with activated complement are high, T and B lymphocyte members and ratios remain relatively normal (20). Quantitative immunoglobulins tend to be normal or IgG is elevated (20). Lymphocyte blastogenic response to various mitogens is normal (20). Arthritis-dermatitis syndrome is a common complication of bypass reported to occur in 8-52% of cases (3,6,9,10). This syndrome occurs more often in females, and more frequently following jejunocolic than jejunoleal bypass (6).

In the present article, for the first time, a new case of arthritis dermatitis syndrome observed after a biliopancreatic bypass for morbid obesity was described.

CASE REPORT

A 45-year-old woman presented in May 1990 with a 35-day history of arthritis involving the knees, ankles, elbows and wrists and erythema nodosum on the legs. The patient also reported fever peaking at 38°C, astenia and generalized arthralgia, but she did not report back pain. These symptoms had begun 10 days after a biliopancreatic bypass surgery for morbid obesity.

On clinical examination she had arthritis involving the wrists, elbows, knees and ankles and erythema nodosum on the legs. Her ESR on admission was 76 mm/h. Immunoglobulins, complement components (C3-C4), RCP, alpha 1-antitryptsin, alpha-1-glicoprotein, ceruloplasmin, aptoglobin, mucoproteins, antibodies to nuclear antigens, and DNA, rheumatoid factor, LE preparation, cryoprotein precipitates, circulating immuno-complexes and histocompatibility antigens were investigat-
High levels of IgG were found (IgG = 2260 mg/dl (n.v.(normal values) = 800-1800). High levels of RCP, alpha 1-anthytripsin, alpha 1-glicoprotein and mucoproteins were also found: RCP = 0.77 mg/dl (n.v. = 0.00-0.50) alpha 1 anthytripsin = 365 mg/dl (n.v. = 190-350), alpha 1-glicoprotein = 171 mg/dl (n.v. = 55-140), mucoproteins= 7.25 mg/dl (n.v. = 3-5). Circulating immune complexes were 4.2 ug/ml (n.v. =0.00-1.50). The study of the histocompatibility antigens showed for Locus A: A2 and A3; for Locus B: B12 (44) and B18; for Locus CW-, CW-; for Locus DR: DR5 and DR7; for Locus DQ: DQW2 and DQW3. Calcium-phosphorus metabolism and iron metabolism were also normal (data not reported). Radiography of the thorax and articular skeleton including spinal views and sacroiliac joints were normal.

A diagnosis of arthritis dermatitis syndrome post biliopancreatic bypass was made and a treatment including sulfasalazine (Salazopyrine EN-Pharmacia, Sweden) 3gr/day and steroid (6 methyl-prednisolon 16 mg/day) was started. After 15 days of treatment the symptoms disappeared. After another 80 days the treatment was stopped. Six months later the syndrome remained quiescent and ESR, circulating immune complexes and IgG were normal.

**DISCUSSION**

Arthritis dermatitis syndrome can be a complication of intestinal bypass for morbid obesity. The syndrome occurs more often in females and there is no relationship between the amount of weight lost or the occurrence of metabolic disturbances, and the development of post-bypass syndrome. The knees and upper extremity joints are most frequently involved, but a polyarticular arthritis is also described (8). Though it is characteristically a non-destructive peripheral arthropathy, chronic erosive, nodular polyarthritis and intermittent monoarthritis of the knee have been described following intestinal bypass surgery (8-10). Rheumatoid factor is generally negative as are the LE preparation and antibodies to nuclear antigens (10). No consistent histocompatibility antigen associations were demonstrated (10).

Other rheumatic manifestations included fever, pleuritis, pericarditis, myalgias, superficial thrombophlebitis, and oral ulcerations (7-11). Rheumatoid arthritis (erosive arthropathy with typical rheumatoid nodules) (5), polymyositis (4) and septic arthritis (19) have also been described. Cutaneous lesions were described in over 80% of cases (11-18); the most common of them included urticaria, necrobiosis lipoidica, erythema nodosum, various forms of vasculitides and Raynaud’s phenomenon.

The aetiology of the arthritis dermatitis syndrome following intestinal bypass is not fully understood. According to several authors bacterial overgrowth in the blind loop is implicated, providing a source of antigen for immune response. The immune etiology is supported by the detection of circulating immunocomplexes and mixed cryoprotein precipitates (8,23) activated complement components and bacterial antigens and antibodies (8).

Moreover, a good correlation with active arthritis following the intestinal bypass was demonstrated with circulating immune complexes containing the secretory component (SC) of IgGA (3,4). This datum was further supported by the finding that SC containing IgA immune complexes decreased, following a return of the small bowel morphology to normal (3,4). According to these data, it was postulated that chronic bacterial overgrowth in the small bowel produces an altered mucosal barrier, giving IgA immune complexes containing SC and formed in the bowel lumen access to the circulating blood. Moreover, the bacterial overgrowth would provide the antigen necessary for continued stimulation of the mucosal system.

In our patient the high levels of IgG and circulating immune complexes, observed before starting the therapy, and their normalization, observed after the steroids