Pellegrini-Stieda disease

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Pellegrini-Stieda disease is a condition occasionally observed on routine radiographic examinations of the knee. A literature survey revealed little in the way of explanation or therapeutic management of this disorder. An overview of this condition with an emphasis on etiological theory and treatment is offered along with two classic radiographic examples. (JCCA 1987; 31(4): 191–192)

KEY WORDS: Pellegrini-Stieda disease, calcification, medial collateral ligament, chiropractic.

La maladie Pellegrini-Stieda est une condition observée occasionnellement pendant un examen habituel du genou. Une étude écrite a révélé peu de choses sur l'explication ou le traitement thérapeutique de ce désordre. Une vue globale de cette condition avec emphase sur la théorie étiologique et le traitement est offerte ainsi que deux exemples radiographiques classiques. (JCCA 1987; 31(4): 191–192)

MOTS CLÉS: maladie Pellegrini-Stieda, calcification, ligament collatéral médian, chiropractique.

Introduction

Ossification of tendonous and ligamentous structures is a relatively infrequent phenomena. Postraumatic calcification with subsequent ossification of tendons or ligaments may develop within various sites including that of the medial collateral ligament of the knee.[1] The term Pellegrini-Stieda syndrome or disease has been utilized to describe this process.

It has been postulated that Pellegrini-Stieda disease may or may not be associated with a history of traumatic episode.[1,2,4,5,7] As with the two examples provided, a history of significant trauma was lacking. If trauma precedes, Forrester suggests that initially, the knee may demonstrate hemarthrosis; and then, depending upon the extent of damage and instability, degenerative alterations may ensue with the subsequent development of Pellegrini-Stieda disease.[1]

Additional theories have attributed this disease to such states as metaplasia and fracture. It is noteworthy however, that an accompanying interrupted cortex is particularly uncommon. The etiology of this condition has exhibited a tendency to parallel that of traumatic myositis ossificans.

Pathophysiologically, the two conditions are characterized by soft tissue edema succeeded by the development of a dense, floculent calcific infiltration of the swelling within 11 days to 6 weeks post trauma. In 6 to 8 weeks, a lacy network of new bone formation sharply circumscribes the periphery of the mass. Maturity of the lesion is usually achieved in 5 to 6 months.

Similar phenomena may also involve the distal end of the tibia as well as the soft tissues about the elbow joint. Both of these regions are highly susceptable to instances of trauma.[7]

Radiographically, the syndrome is characterized by calcific deposition developing within the region of the medial epicondyle and adductor tubercle of the femur. This area is consistant with approximate attachment of the medial collateral ligament. The lesion may spontaneously resolve or intensify in density to the extent of frank trabecular formation.

When surgically removed, the lesions were found to be firmly connected to the superficial layers of the medial collateral ligament of the knee. If the lesions were large, they extended anteriorly to the insertion of the adductor magnus or infiltrated its tendon as well as that of the vastus medialis. The calcification was also noted to be covered by fibrous tissue. Reformation of the lesion frequently occurred several months post section.[7]

The two examples provided are those of a 26 yr. old caucasian female (Figure 1) and a 27 yr. old caucasian male (Figure 2). Both patients presented for assessment by reason of varying degrees of knee pain persisting for durations of 4 months and 2 weeks respectively. Although biomechanical alterations were largely suspected as being responsible for the symptoms, radiographs of the articulations revealed the classic manifestations of Pellegrini-Stieda disease. In both instances, dense, homogenous, arcuate calcific depositions were observed in the region proximal to the medial epicondyles of the respective femurs. No evidence of other significant osseous or soft tissue abnormality was noted.

Therapeutically, management of Pellegrini-Stieda disease can include rest, where the lesion may resolve, or section, where the lesion frequently recurs.[7] Aspirin and the use of non-steroidal anti-inflammatory preparations have proven to be useful in the treatment of this condition. Corticosteroid injection with lidocaine has been reported to be helpful.[3]

Little has been cited in chiropractic literature relative to the successful utilization of manipulative therapy or its adjuncts in the treatment of this disorder. Relevant clinical information with respect to the etiology and treatment of this disease is limited. When such information is available, oftentimes it is replete with discrepencies of history, variances of clinical presentation and equivocal etiologies. All these factors contribute to a wide range of diagnostic and therapeutic enigmas which surround this condition.

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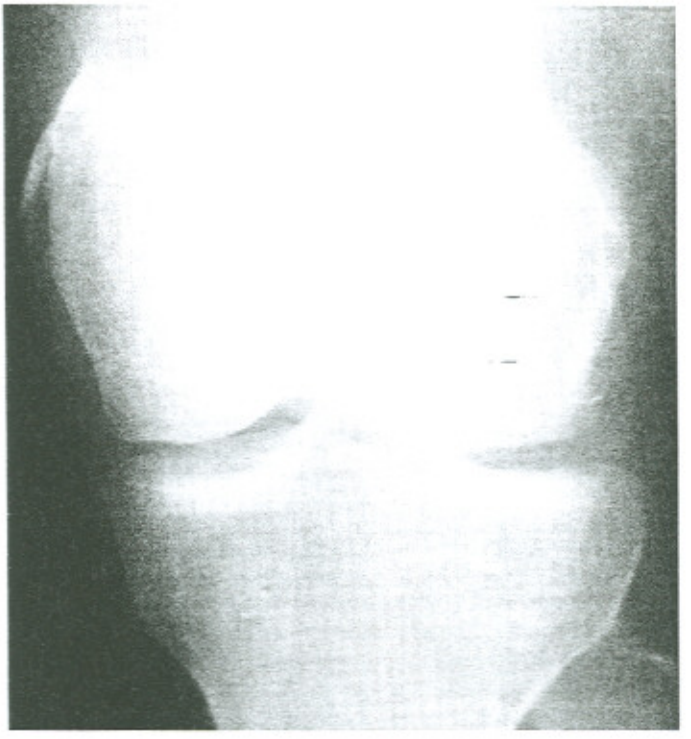

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Figure 1 AP view of the right knee, demonstrating the arcuate calcification adjacent to the medial epicondylar region of the femur.

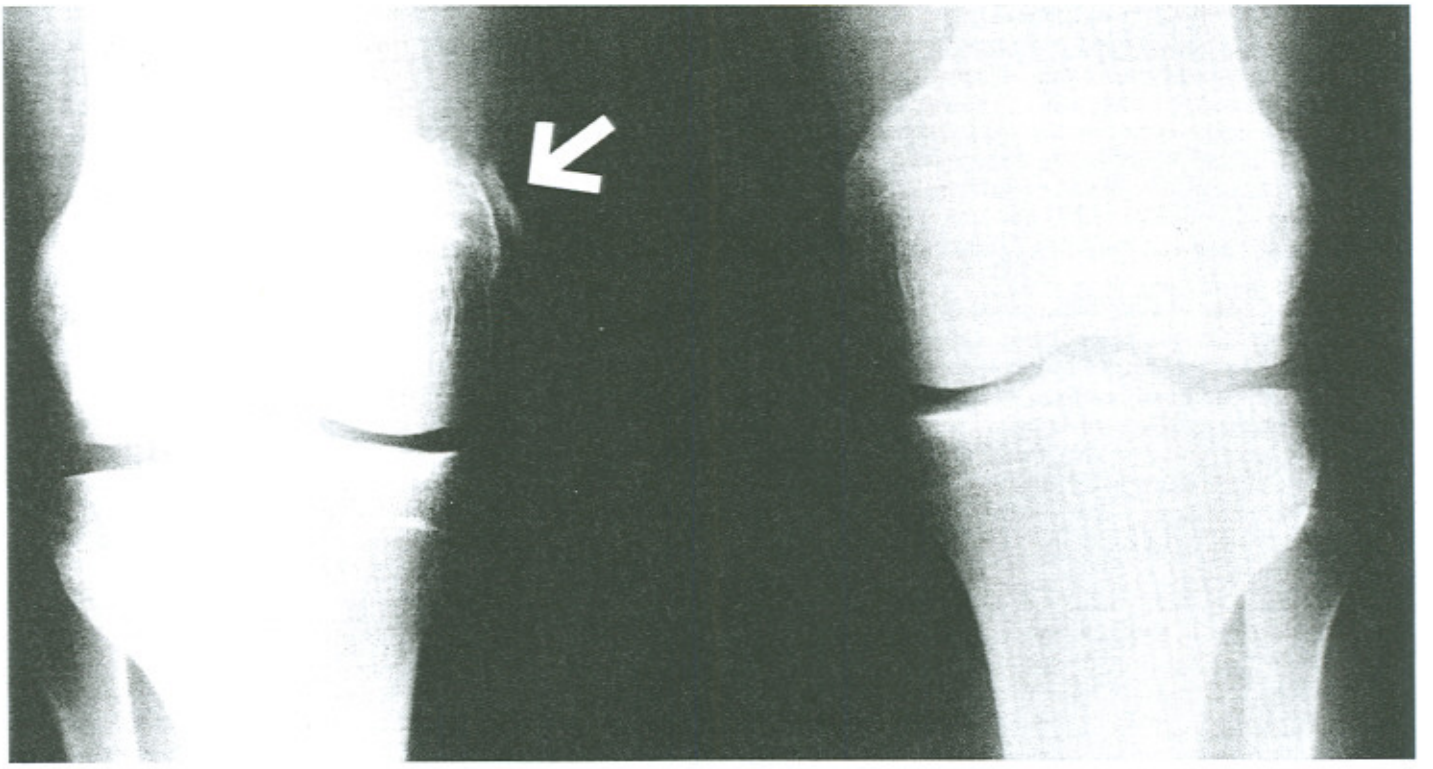

Figure 2 AP comparison study of the knee joints exhibiting an incidental dense, sclerotic, linear calcification adjacent to the medical epicondyle of the left knee.