Summary

Traction apophysitis of the patellar tendon (Osgood-Schlatter disease) is a developmental condition of adolescence marked by pain, swelling, and tenderness involving the growing tibial tuberosity. It is more specifically characterized by inflammation of the patellar tendon at its insertion site (apophysitis) on the proximal tibial tuberosity **(Gholve et al., 2007).**

Osgood-Schlatter disease is predominantly a disorder of early adolescent boys (ages 11 to 15 years) and girls (ages 8 to 13 years). Prevalence is estimated at 21% of adolescent athletes and 4.5% of nonathletic adolescents. The male-to-female ratio is 3:1, but the ratio may be equalizing because of increased participation of girls in sporting activities. It is more common among adolescents engaging in athletics requiring repetitive quadriceps contraction **(Sarcevic, 2008).**

Traumatic stress is placed on the proximal tibial tuberosity from repetitive contraction of the patellar tendon by the quadriceps mechanism. Repetitive stress causes apophyseal inflammation and heterotopic bone formation at the tibial tuberosity. This condition occurs during the developmental period of rapid skeletal growth ***(Weiss et al., 2007).***

Anterior knee pain is aggravated by quadriceps stress (e.g., ascending and descending stairs, jumping, running) or by direct pressure on the tibial tuberosity. Pain improves with rest. Bilateral symptoms are present in 30% of patients. There is enlargement of the tibial tuberosity. The patellar tendon is thickened. There is

absence of synovial inflammation or joint effusion. Pain increases with quadriceps flexion. **(Blankstein et al., 2001).**

Summary

Plain radiographs show irregularity of the apophysis with separation from the tibial tuberosity during the early stages of OSD and fragmentation during the later stages. A persistent bony ossicle may be visible in a few cases following fusion of the tibial epiphysis. With the use ultrasound in cases of OSD a reduced exposure of children to X-ray is possible. Ultrasound examination is a clear and easy way to diagnose the disease correctly and evaluate its course and cure. MR images were especially useful for revealing early and progressive lesions of OSD **(Gholve et al., 2007).**

The standard non-operative treatment of OSD includes Limitation of activities that stress the patellar tendon. Apply ice for short-term relief of pain after activity. Practice regular stretching of the quadriceps mechanism and hamstrings. Use knee pads to minimize direct trauma. Infrapatellar straps or knee braces may partially alleviate symptoms. For severe cases not responding to conservative management, more prolonged tendon rest can be achieved with above knee casting for 3 to 6 weeks **(Ross and Villard, 2003).**

Surgical treatment has been described for patients who have failed nonoperative management of OSD. There are different surgical procedures such as drilling of the tibial tubercle, excision of the tibial tubercle (decreasing the size), longitudinal incision in the patellar tendon, excision of the ununited ossicle and free cartilaginous pieces (tibial sequestrectomy), insertion of bone pegs and/or a combination of any of these procedures. **(Orava et al., 2000).**

Arthroscopic technique for debridement can be done. The advantages of this technique include the avoidance of the patellar tendon longitudinal split required for open procedures and the ability to address concomitant intra-articular pathology ***(Deberadino et al., 2007).***

Complications secondary to Osgood-Schlatter disease are rare. Ogden and Roberts (1990) reported on complications of OSD with or without treatment. These included nonunion of the bony fragment to the tibia, avulsion of the tibial tuberosity, subluxation of the patella, patella alta, Patella infra, and premature fusion of the anterior part of the epiphysis with resulting genu recurvatum.