

## 7. SUMMARY

### ANATOMIC CHANGES OF PROXIMAL TIBIA FOLLOWING PROXIMAL TIBIAL OSTEOTOMIES

Osteoarthritis of the knee (gonarthrosis) is a serious condition usually seen in the people of middle to advanced ages. Tibial or femoral deformities, intraarticular defects, trauma, osteonecrosis, absence of the ligaments and/or menisci play important role in development of gonarthrosis. The condition is defined as a heterogenous pathology in which symptoms develop due to structural deformities of the articular cartilage and additionally, bony changes occur on the edges of the joint. Proximal tibial osteotomies (PTO) commonly used in treatment of gonarthrosis are surgical treatment options aiming to resolve symptoms of the patient by transferring the load on entire tibial plato by changing the mechanical axis on the knees at varus position. PTO yields satisfactory results in short term but these results usually deteriorate over time and total knee replacement is required in most patients. In the present study, 93 knees of 91 patients were examined retrospectively. Of these patients, 36 underwent closed wedge osteotomy and 30 dome osteotomy in Orthopedics and Trauma Clinic of Hospital of Medical Faculty of Ege University and 25 underwent open wedge (2 patients had undergone bilateral osteotomy) in Orthopedics and Trauma Clinic of Hospital of Medical Faculty of Adnan Menderes University. Measurements were done by using “Hipax Diagnostic Workstation” version 1.6.5 on preoperative (anteroposterior and lateral) and postoperative (AP and lateral) radiograms of the patients. Tibiofemoral anatomic angle of axis and percentage of deviation from the midline were measured on the AP radiograms and Caton-Deschamps Index, Insall-Salvati Index and tibial slope angle were measured on the lateral radiograms. All three PTO techniques we examined cause some shortening on the patellar tendon. This may lead to problems in procedure of the surgical approach of total knee replacement (TKR) that will be performed following PTO. We believe that in all three techniques, changing tibial slope will not lead to difficulty in TKR procedures following PTO although the tibial slope changes. Considering the amount of deviation of anatomic axis of the tibia from the center of tibial plato, closed wedge PTO appears as the advantageous technique in TKR procedure following PTO. Considering all of the changes on proximal tibia following PTO, it is clear that very meticulous preoperative planning is required in the patients who will undergo TKR following PTO.

**Keywords:** Gonarthrosis, Proximal tibial osteotomy, total knee replacement

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