Complications that occur with management of periarticular tibia fractures. There are few series in the literature that address the outcomes and complications including the development of posttraumatic osteoarthritis (PTOA) associated with the management of combat related periarticular injuries (plafond and plateau). The literature has been exhaustively studied, the literature is sparse with regard to the development of PTOA is a common sequelae of these periarticular injuries. This retrospective review of combat injured patients with a periarticular injury is one of the largest series of patients studied with the primary objective to determine the rate of posttraumatic osteoarthritis. This study may lead to a better understanding of joint injuries and help identify patients at increased risk that may be amenable to preventive measures to minimize disabling joint degeneration in this population.

694 THE OUTCOME OF LATERAL INCISION SKIN FLAP HYPALGESIA AND KNEE FUNCTIONS FOR OA PATIENTS 5 YEARS AFTER TOTAL KNEE ARTHROPLASTY

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Purpose: Nowadays, Total knee arthroplasty (TKA) has become an important treatment for late stage Osteoarthritis (OA) patients and almost all of the patients will report numbness on the lateral incision skin flap after surgery. Although many studies has revealed the reason and change of this numbness, no such conclusion has been made for the 5 years outcome and its effects on patients’ knee function based on both questionnaire and physical examinations.

Methods: 40 OA patients (59 knees) after TKA were continuously recruited, and the areas of numbness (analgiesia areas and hypalgiesia areas) were marked and measured around the midline incisions one week after TKA. A technician used the pin of percussion hammer for crude test around the incisions, then tested with a needle outside-in and downward. Marks were made when patients began to feel loss of pain or decrease of pain. Tests were repeated every 1cm. Analgesia areas and hypalgiesia areas were formed by linking the marked dots together, while the positions of the patella and tibial tuberosity were also marked (Shown as Fig.1). At the same time, the patients’ medical and surgical information were detailedly recorded, including gender, age, body mass index (BMI), one or both knees for TKA, left or right knee for TKA, got patellar replaced or not, as well as the intraoperative bleeding volumes, postoperative drainage volumes, prosthesis types, lengths of incisions, the lengths from the tibial tuberosities to the distal and proximal points of incisions, and preoperative KSS (Knee society score) clinical and function scores. The areas of numbness were measured again by the same technician with the same method at a mean follow-up of 5 years (60-63 months) (Shown as Fig.2). In addition, SF-36 questionnaire, KSS clinical and function scores, and the University of Western Ontario McMaster osteoarthritis Index visual scores (WOMAC) were also required to complete. All the areas were measured by the “AutoCAD” Software, and SAS statistical software was used for statistical analysis. We defined the objective numbness as tested hypalgiesia area and subjective numbness as self-reported hypalgiesia.

Results: All of the 40 patients had analgesia areas (9.4±14.4) cm² (14.4cm²_85.3cm²) and hypalgiesia areas (71.6±23.9) cm² (27.0cm²_127.3cm²) one week after TKA. 5 years after TKA, all of the patients had no more analgesia areas and the average of hypalgiesia areas was (10.8±11.6) cm² (0.0cm²_42.6cm²), with 16 knees of 10 patients reported a complete restoration of objective numbness. There was a decrease of 84.9% on hypalgiesia areas from 1 week after TKA to 5 years after TKA (t = 17.6, P = 0.01). At the 1 week examination, there was positive correlations between the lateral incision skin flap hypalgiesia areas with the lengths of incisions (t = 3.07, P = 0.002); and with the lengths from tibial tuberosities to the distal point of incisions (t = 3.78, P <0.001). At the 5 years examination, the lateral incision skin flap hypalgiesia areas had no correlations with all of the variables we concerned. And the existence of the patients’ subjective or objective numbness (hypalgiesia areas) at both 1 week and 5 years after TKA had no affection on their 5 years’ KSS clinical and function scores, WOMAC scores, or SF36 PCS and MCS scores, even adjusted for age, sex, BMI and the preoperative KSS clinical and function scores.

Conclusions: All patients get lateral incision skin flap hypalgiesia areas after TKA and its improvement occurs over the next few years. The lateral skin incision hypalgiesia areas have no significant effect on the patients’ 5-year functional rehabilitation. Therefore, patients after TKA have no necessities to worry about the affecting of hypalgiesia areas on their rehabilitation. However, the consent of this complication is necessary before TKA.