TWO TYPES OF THE COLLAGEN MEMBRANES FOR THE PLASTIC RESTORATION OF ARTICULAR CARTILAGE DEFECTS IN THE EXPERIMENT

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Background. Articular cartilage injuries are common in the field of orthopedics. Cartilage has a poor regenerative capacity. Accordingly, trauma-associated cartilage defects are often treated surgically by covering with synthetic collagen membranes.

Aim. To compare the regenerative capacities of two types of synthetic collagen membranes utilized in a rat model of full thickness defect.

Material and Methods. Full thickness cartilage defects were made surgically in patellofemoral grove and covered with one of the two collagen membranes: Chondro-Gide® (Switzerland) or Chondrotek (Russia). Control group was left without coverage. The International Cartilage Repair Society (ICRS) score and histological analysis were carried out in 2 and 4 months after implantation.

Results and Discussion. Both collagen membranes have a positive effect on cartilage repair since the thickness of newly formed tissue was significantly higher than in control group. Formation of fibrocartilage was observed in all groups. No significant difference was observed between two membranes repair capacity.

Conclusions. Both collagen membranes have comparable repair capacity and both failed to facilitate formation of hyaline cartilage.

ANTHROPOMETRIC EVALUATION OF BODY COMPOSITION AND FOOT ARCHES OF AFRICAN AND EUROPEAN MEN

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Key words: *foot, body, composition, anthropometric features*

Aim. The aim of this article was to assess racial anthropometric differences of the foot and body composition, and the effect of the later on foot arch considering the male gender in this present research since a similar article which is submitted to be published was focused on the female gender.

Material and Methods. A total of 124 feet of young men belonging to the African and European ethnic groups were examined based on foot length (FL), foot width, length of medial longitudinal arch (LMLA), length of lateral longitudinal arch (LLLA), width of anterior transverse arch (WATA), and width of posterior transverse arch (WPTA), shtriter index (SI), and flattening index, (FI) and the relationship between Body Mass Index (BMI) and foot arches were also studied. All the parameters were measured using stadiometer and plantograph except shriter and flattening index were calculated. T-test and Excel were used to statistically analyse the data.

Results and Discussion. After T-testing our analysis showed a p-value <0.05 for BMI, height, LMLA, LLLA, WPTA, FI, SI among the two races. Regression analysis between BMI and the following parameters: LMLA, WPTA, SI, and FI, recorded a p-value <0.05 except for LMLA. According to Shtriter Index African men recorded 25% High-Arched foot and 53% Flatfoot whilst European men recorded 50% High-Arched foot and 33% Flat foot.

Conclusions. In conclusion, the present study has shown some significant differences in body composition and anthropometric features of foot among men from Europe and Africa origin.

ALGORITHMIZATION OF STUDY IN ANATOMY RESEARCH

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Key words: *anthropometry, anthropometric landmarks, lower limb*

Aim. Develop an algorithm for the investigation of lower limb (LL) on the basis of constant segmented bone reference points.

Material and Methods. The study was performed on non-fixed corpses of 2 women and 6 men. The hip and shin are conventionally divided by 10% in length, and the knee joint area by 33% strictly parallel. The length of the LL is the distance from the clearly palpable large trochanter of the femur to the apex of the lateral ankle. The proximal landmark in determining the length of the tibia is the line drawn from the fibula to the point on the inner surface of the medial condyle of the tibia. The line connecting the centers of the proximal and distal boundaries was the integral length of the tibia, which allows us to take into account both the length of tibia and fibula. The proximal landmark is the line connecting the epicondyle of the femur. On the hip, a distal reference point was used to connect the epicondyle of the femur.