

A Practical Dressing Method to be Used in Experimental Studies on the Extremities of Rabbits: Scientific Letter

Tavşan Ekstremitelerindeki Deneysel Çalışmalarda Kullanılacak Pratik Bir Sargı Yöntemi

Özgür SUNAY, MD,^a
Bilgehan İLKER, MD,^a
Ziya DENEK,^b
Mustafa YILMAZ, MD^a

Departments of
^aPlastic Research and Aesthetic Surgery,
^bHistology and Embriology,
Dokuz Eylül University
Faculty of Medicine, İzmir

Geliş Tarihi/Received: 13.02.2010
Kabul Tarihi/Accepted: 26.05.2010

Yazışma Adresi/Correspondence:
Özgür SUNAY, MD
Dokuz Eylül University
Faculty of Medicine,
Department of Plastic
Research and Aesthetic Surgery, İzmir,
TÜRKİYE/TURKEY
ozgur.sunay@deu.edu.tr

ABSTRACT Rabbits' higher sensitivity to infections, stronger muscles and vulnerability to emotional stress require careful and fastidious laboratory practices. We used Ilizarov distractors that were prepared to adjust the tibias of the rabbits. Then the leg was wrapped over the Ilizarov distractor by sterilized sponges. After this phase, problems began to occur as the rabbits began to remove the dressings rapidly during their natural movements or by gnawing them. To solve these problems, a cotton sack was sewed at the size of the lower extremity of the rabbit. This method facilitated the daily distraction procedure considerably and following its use, no infections occurred among the rabbits.

Key Words: Ilizarov technique; bandages; animal experimentation

ÖZET Tavşanların enfeksiyonlara yüksek duyarlılığı, güçlü kasları ve emosyonel strese karşı dayanıksızlıkları dikkatli ve titiz laboratuvar uygulamalarını gerektirir. Tavşanların tibialarına uyacak şekilde hazırlanmış İlizarov distraktörlerini kullandık. Daha sonra bacak steril spançlarla İlizarov distraktörünün üzerinden sarıldı. Bu evreden sonra tavşanlar doğal hareketleri sırasında veya kemirerek sargıları hızla çıkarmaya başladıkları için problemler meydana gelmeye başladı. Bu problemleri çözmek için, tavşanın alt ekstremitesinin boyutlarında pamuk bir çuval dikildi. Bu yöntem günlük distraksiyon işlemini oldukça kolaylaştırdı ve kullanımını takiben tavşanlarda hiç enfeksiyon meydana gelmedi.

Anahtar Kelimeler: İlizarov tekniği; sargılar; hayvan deneyleri

Türkiye Klinikleri J Med Sci 2010;30(6):2025-6

DIFFICULTIES WITH EXPERIMENTS ON RABBITS

Rabbits' higher sensitivity to infections, stronger muscles and vulnerability to emotional stress require careful and fastidious laboratory practices.

Our study consisted of the installment of the Ilizarov fixator on New Zealand white rabbits' tibias and tibia extension via application of Adipose Derived Adult Stem cells (ADAS cells), of which the osteogenic differentiation was applied, to the fracture line.^{1,2} We used Ilizarov distractors that were prepared to adjust to rabbit tibia (Figure 1). After a 2 cm incision was made on the anterior tibia, the extensor muscles were exposed and separated from the bone. The exposed bone was cut using a power-operated sur-



FIGURE 1: Leg of rabbit after Ilizarov distractor set.



FIGURE 2: Cotton sack is being covered.

gical bone saw and the skin was sutured. The leg was wrapped over the Ilizarov distractor by sterilized sponges. After this phase, problems began to occur as the rabbits began to remove the dressings rapidly during their natural movements or by gnawing them. Thus, the suture line was open to infections and the osteotomy line right under the skin was exposed to risk. Since the distractor had to be opened each day over a period of 10 days, it was time-consuming to dress the wound to each application. The dressings placed after the third day were aimed at protect the tibia and the distractor rather than preventing infection.

SOLUTION WITH SACK DRESSING

To solve these problems, a cotton sack at the size of the lower extremity of the rabbit was sewed (Figure 2). The sack was big enough to contain the rabbit's foot, leg and thigh and it opened easily since it was tied (Figure 3). It was observed that the rabbit was unable to untie the sack's knot and the suture line and the distractor were perfectly preserved



FIGURE 3: Tied cotton sack.

postoperatively. This method facilitated the daily distraction procedure considerably and following its use, no infections occurred among the rabbits.

We believe that covering the dressing with the abovementioned sack can be highly beneficial to protect the extremities of the rabbits during studies.

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