

ARTHROSCOPY WOUNDS : TO SUTURE OR NOT TO SUTURE

by N. MAFFULLI*, E. PINTORE** and F. PETRICCIUOLO***

The arthroscopic wounds of 100 Caucasian patients were either sutured or simply bandaged on a random basis. The patients were reviewed after 2 and 12 weeks to ascertain the outcome of the two techniques. Suturing an arthroscopic wound resulted in an increased incidence of hematomas and superficial abscesses. A sutureless technique probably favors early hematoma draining, thus removing a potential cause of infection.

Keywords : arthroscopy ; wound ; infection ; suture.
Mots-clés : arthroscopie ; incision ; infection ; suture.

RÉSUMÉ

N. MAFFULLI, E. PINTORE et F. PETRICCIUOLO. Faut-il suturer les incisions d'arthroscopie ?

Chez 100 patients caucasiens, les incisions d'arthroscopie furent soit suturées, soit simplement recouvertes d'un pansement. Les malades furent revus entre 2 et 12 semaines après l'intervention pour évaluation des 2 techniques. La suture des incisions d'arthroscopie entraîne une incidence plus élevée d'hématomes et d'infections superficielles. L'absence de suture favorise l'évacuation des hématomes et supprime ainsi une cause d'infection.

SAMENVATTING

N. MAFFULLI, E. PINTORE en F. PETRICCIUOLO. Arthroscopie-incisies : al dan niet hechten ?

De arthroscopie-incisies bij 100 Kaukasiaanse patiënten werden of gehecht of gewoon bedekt met een steriel verband.

De patiënten werden terug gezien 2 en 12 weken postoperatief, voor evaluatie van het resultaat van de gebruikte techniek. De hechting werd gevolgd met een groter aantal hematomen en oppervlakkige infecties. De afwezigheid van hechting begunstigt het draineren van de hematomen en schakelt bijgevolg een potentiële oorzaak van infectie uit.

INTRODUCTION

Arthroscopic procedures are generally devoid of major complications (1), and those occurring are usually related to the entry wounds (3). Current orthopedic textbooks suggest using a single, deep stitch for each wound (1). To date, only one study in which the nonsuture technique was used investigated the effects of not suturing arthroscopic wounds (3). The results showed that the sutureless technique was safe, yielding no complications (3). We report the results obtained using the two modalities in a random fashion.

PATIENTS AND METHODS

Over a 10-month period, 100 Caucasian patients undergoing arthroscopy were randomly assigned

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to one of two treatment modalities of their arthroscopic wounds : one plain silk suture stitch (47 patients, 152 wounds) or no suture (53 patients, 178 wounds). Further details of the two treatment groups are given in Table I. Standard anteromedial, anteromateral, posteromedial and transpatellar entry portals were used, according to the description in standard orthopedic textbooks (1, 2). All arthroscopies were performed through 5-mm stab wounds produced by a number 15 scalpel blade in a bloodless field furnished by a tourniquet. Normosaline gravity irrigation was used. In each knee, all wounds were either sutured or not sutured. At the end of the procedure, a Robert Jones compressive bandage was applied before removal of the tourniquet. The patients were discharged on the same day, after being able to perform a straight-leg raise unaided. The bandage was reduced the following day on an out-patient basis, and the patients were encouraged to mobilize

as able. They were reviewed at 2 and 12 weeks. Complications were noted.

The cosmetic appearance of the wound was evaluated at the twelfth postoperative week. On a 3-point scale, 1 was given to a well-healed, not discolored, nearly invisible scar, and 3 was given to a clearly visible scar, with evident cross-hatching.

The results were analyzed using the chi-square test. Significance was accepted at the $p = 0.05$ level, or less.

RESULTS

No major complications were encountered. The wound-related complications consisted in 5 (suture group) and 3 (sutureless group) hematomas ($p = 0.042$), and 4 (suture group) and 1 (sutureless group) superficial abscesses ($p = 0.038$), respectively. No keloidal nor hypertrophic scars were found. Inspection of the dressing at 2 weeks revealed blood seepage in 13 (suture group) and 25 cases (sutureless group), respectively ($p = 0.04$). Six patients complained about the cross-hatching that the stitch had created.

Using the three point scale outlined in the Patients and Methods section, the average cosmetic result was 2.1 ± 0.81 (silk suture group), and 1.3 ± 0.4 (sutureless group) ($p = 0.031$).

DISCUSSION

Although standard orthopedic textbooks (1, 2) advocate 1 suture stitch for each arthroscopic wound, only one study addressed the problem (3). In that article, no wound infections were reported in 140 patients whose arthroscopy wounds were not sutured. In the present study, the incidence of hematoma and superficial abscess formation was low, although significantly in favor of the sutureless technique. Leaving the wound without suture probably favors blood drainage, thus avoiding the risk of hematoma and subsequent superficial abscess formation, a potential risk of deeper, more serious infection. The possibility of the suture material becoming infected is also circumvented by the sutureless technique. A suture adds

Table I. — Details of the patients in the two treatment groups

	Group 1 (silk)	Group 2 (no suture)
Number of patients	47	53
Number of male patients	36	42
Number of wounds	152	178
Average age (\pm SD) (years)	34.7 (6.5)	37.9 (9.3)
Average duration of arthroscopic procedure (\pm SD) (minutes)	34.7 (17.3)	36.5 (19.6)

Table II. — Findings of arthroscopy

	Group 1 (silk)	Group 2 (no suture)
Meniscal tears	26	31
Anterior cruciate ligament tears	13	18
Synovitis	19	16
Osteochondritis dissecans	6	4
Chondromalacia patellae	11	15
No pathology seen	3	3
Other	7	9

N.B. Patients may have been suffering from more than one lesion.

to the expense of the procedure, both by its intrinsic cost and by the time needed to stitch the wound.

Non-suture of arthroscopic wounds appears to be safe, cheap, and cosmetically acceptable.

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