Kinesio Taping method applied to treatment of postsurgical knee swelling after primary total knee arthroplasty

Magdalena Sobiech, Jaromir Jarecki, Mirosław Jabłoński

Chair and Clinic of Rehabilitation and Orthopaedics, Medical University of Lublin, Poland

INTRODUCTION. Human knee joint is highly prone to degeneration. If the improvement of knee functions is not observed after physiotherapy and pharmacological treatment, with clearly advanced degenerative changes, the first choice treatment is primary total knee arthroplasty with Kinesio Taping (KT) as modern supporting physiotherapy method.

PURPOSE. The aim of the study is evaluation of the influence of Kinesio Taping tapes on the reduction of subcutaneous tissue swelling after a primary total knee arthroplasty.

METHOD. The studied group consisted of 55 (45F,10M) patients with a primary TKA who were divided into 2 subgroups: 23 patients in whom swelling was additionally treated with the KT and 22 patients in whom this application was not performed. On day 3 and 8 after the surgery the thickness of swelling and the circumferences of calf were measured, the range of motion was assessed. The severity of pain was evaluated using VAS numeric scale.

RESULTS. Significant differences in the thickness of subcutaneous tissue on day 3 at the level of the head of fibula (11.5 vs. 10.3 mm), 25 mm (10.1 vs. 9.8 mm) below were observed. The tendency reverted on day 8, circumference measured 25 mm (8.9 vs. 9.7 mm) and 50 mm (8.8 vs. 9.2 mm) below the head of fibula were significantly different between both groups. The other studied parameters did not statistically differ between the two groups.

CONCLUSIONS. Kinesio Taping is an effective method supporting replacement surgery of the knee which accelerates drainage of subcutaneous tissue and reduces subcutaneous swelling.

Evaluation of thickness of subcutaneous tissue in the treatment group and the clinical control group

Evaluation of knee joint flexion angles in the treatment group and the clinical control group

Evaluation of circumferences in the treatment group and the clinical control group

Evaluation of VAS scale in the treatment group and the clinical control group

In both groups on day 3 and 8 after the surgery, thickness of subcutaneous tissue of the calf was scanned with usg Simens ACUSON S2000 HELX EVOLUTION with a linear head 18L6 HD and assesed. The parameters were evaluated at three points - the level of the top of the head of fibula, 25 mm below the neck of fibula and 50 mm below the neck of fibula in the longitudinal axis of the limb.

References

1. V. Donec, A. Krisciunas, The effectiveness of Kinesio Taping after total knee replacement in early postoperative rehabilitation period. A randomized controlled trial. Eur J Phys Rehabil. Med 2014;50:363-71
2. Ristow O., Hohlweg- Majert B., et al. Does Elastic therapeutic tape reduce posoperative swelling, pain and trismus after open reduction and internal fixaion of mandibular fractures? J Oral Maxillofac Surg 71: 1387-1396,2013
3. Williams S., Whatman, Patria A., Sheerin H., Sheerin K., Kinesio Taping in treatment and preventin of sports injuries, Sports Med. 2012, 42(2),153-164
4. Boguszewski D., Tomaszewska I., Adamczyk J.G., Białoszewski D., Ocena skuteczności Kinesiologii Tapingu we wspomaganiu rehabilitacji pacjentów po rekonstrukcji więzadła krzyżowego przedniego. Doniesienie wstępne. Ortopedia Traumatologia Rehabilitacja, 2013,5(6), vol. 15,469-478