



Barcelona, Spain, 19-21 September

ECONOMIC IMPACT OF FAST TRACK PROTOCOL IN NON-TRAUMATIC INSTRUMENTED LUMBAR SURGERY

COST-BENEFIT STUDY



A. Damián Jover Mendiola, Ireneusz Francuz.

Orthopaedic Service, Department of Spinal Surgery. University Hospital of Torrevieja, Alicante, Spain.



INTRODUCTION

It is known that surgical programs of fast recovery or fast-track reduce complications and hospital stay, providing patient satisfaction and early postoperative recovery.

It's application in Orthopedic Surgery focuses on hip and knee arthroplasty.

In Spinal Surgery there is no information in the literature and currently there are no economic studies that value the benefit.

OBJECTIVE

We conducted an economic impact analysis on the application of the fast-track protocol in spinal surgery in our Center 2017-2018 in non-traumatic instrumented lumbar surgery, comparing costs and benefits with the current protocol.

MATERIAL - METHOD

We defined two working groups of instrumented lumbar primary surgery:

- Group A (current protocol): 21 cases of posterolateral surgery with standard polyaxial screw.
- Group B (fast-track protocol): 21 cases of minimally invasive surgery with polyaxial cannulated screw.

We made a comparison of the consumption of hospital resources according to established prices by shopping commission of the Center.

Variables analyzed: mean hospital stay, stay cost, surgical material cost, medical material and tests cost.

RESULTS

Implants and disposable material: average cost per arthrodesis level with standard polyaxial screw of 1665 €/unit in group A. Average cost per level of arthrodesis with polyaxial cannulated screw and disposable material (jam-sidi introducer, nitinol needle) of 2700 €/unit in group B.

Tranexamic acid (3.86 €/500mg): no case in group B; 1 gram per case in 81% in group A (0 € group A, 131.24 € group B). Drainage (2.68 €/unit): in all cases in group A, no cases in group B (56.28 € group A, 0 € group B).

The decrease in the blood profile was greater in group A (mild-moderate anemia) compared to group B (normal limit). 2 transfusions in group A versus none in group B. The mean surgical material cost was greater in group A (584.28 €) compared to group B (503.86 €).

RESULTS

The postoperative intravenous analgesic consumption was 48 hours in group B compared to 24 hours in group A. The mean tests cost was smallest in group A (14.69 €) compared to group B (7.78 €).

The mean hospital stay was 5-6 days in group A, with an average VAS of 4-5 points (greater pharmacological use/day). The average hospital stay of group B was 2-3 days, with an average VAS of 1-2 points and lower pharmacological consumption per day. The mean stay cost was greater in group A (705.71 €) compared to group B (373.18 €).

DISCUSSION

The new designs of implants for minimally invasive surgery with cannulated screws can be more expensive due to the technical design and the use of additional material for their implantation; but economically it is profitable or higher if we consider the reduction of the use of surgical materials, the reduction of the consumption of blood products with blood saving techniques, pharmacological resources to produce less tissue damage and a reduction of the hospital stay to achieve mobilization early.

CONCLUSION

The fast track protocol is a combination of multidisciplinary work. The application in spinal surgery is still unknown, with a lack of reliable information in the literature. With very promising results, more studies are needed.

DISCLOSURE DECLARATION

None of the authors has any potential conflict of interest.



Barcelona, Spain, 19-21 September

THANK YOU!



A. Damián Jover Mendiola, Ireneusz Francuz.

Orthopaedic Service, Department of Spinal Surgery. University Hospital of Torrevieja, Alicante, Spain.

