

## COST EFFECTIVENESS OF DIFFERENT SURGICAL TREATMENT OPTIONS FOR POST-PROSTATECTOMY INCONTINENCE WITH A MINIMUM FOLLOW-UP OF THREE YEARS, A SINGLE CENTER ANALYSIS

### Hypothesis / aims of study

Post-prostatectomy incontinence (PPI) represents a devastating complication for most patients affected. In many healthcare systems economic aspects may play a role in decision-making. After we conducted a Database search containing the words „male urinary incontinence, post-prostatectomy incontinence, costs and cost-effectiveness“ we could not find any satisfying results on this matter. We looked into primary and secondary costs generated from different surgical treatment options in an *intention to treat setting* at our facility to get a better understanding of costs of the different procedures, yet also identify ways of improving cost-effectiveness.

### Study design, materials and methods

We retrospectively analyzed all patients undergoing primary surgical treatment for PPI at our center, receiving AMS-800, Argus or ProACT in the years of 2008-2010. We calculated costs for hospitalization, surgeries, implants, and all successive Revisions within the follow-up Period until December 2015. Control visits outside of our hospital could not be calculated. Patients who did not have an active follow-up Period of at least 36 month or had their device explanted without substitution and were therefore no longer surgically treated for PPI were also not included in our calculations.

### Results

In the years of 2008 to 2010 128 patients received *primary* surgical treatment for PPI. The first-line therapy for 57 of those patients was ProACT, 38 received Argus classic, and 33 received an AMS-800. Patients treated with Flowsecure, InVance and Reemex were disregarded due to the very small number of recipients. 35 Patients did not complete the 36 month of follow-up, of which 14 were foreign residents and 6 patients died.

The final cohort consisted of 41 patients with ProACT, 27 with Argus and 21 AMS-800.

Mean follow-up overall was 60,8 month and was very comparable between the three implants (ProACT 60,61, Argus 59,11, AMS 800 62,67). There was no significant difference in patient age with an average of 68,83 years for ProACT, 68,74 for Argus and 67,38 for AMS-800.

The average cost per patient came up to 16402,46 Euro for ProACT (implants: 6016,15.-, hospitalization: 7588,88.- surgery/revision/adjustment: 2797,44), 19728,59 46 Euro for Argus (implants: 4305,96.-, hospitalization: 11128,30.-, surgery/revision/adjustment: 4294,33.- ) and 26481,10 46 Euro for AMS-800 (implants:8121,10.-, hospitalisation:13731,43.-, surgery/revision/adjustment: 4628,57.-) respectively. In fact, these costs correspond with the subjective perception of success of our patients (“improved continence”: Pro Act: 85,2%, Argus: 89,3%, AMS 800: 92,6%) as described by Bretterbauer et al. in a telephone survey of the same cohort [1].

Patients receiving ProACT were generally dismissed from the hospital a lot sooner than the other patients (median hospitalization was 8 days within the follow up). And even though the ProACT implant itself is more expensive than the Argus sling, the overall costs were lower due to the shorter hospitalization (median 12 days for Argus). The higher costs of the AMS-800 on the other side were mainly due to the far more expensive implant, and revision kit, while the median hospitalization was closer to Argus with 14 days.

### Interpretation of results

With hospitalization making roughly half of the overall costs, there is big potential in decreasing overall costs by minimizing hospitalization, and making more expensive implants with superior success rates concerning the patients' continence in our institution like the AMS-800, more cost-effective. Accordingly the hospitalization was reduced to 2-3 days per procedure at our facility in the more recent years.

With the hospitalization conceptually reduced even further, to one day per surgery or surgical revision, like commonly practiced in most healthcare systems, the overall costs would be reduced to 10411,24 Euro for ProACT, 10683,56 Euro for Argus and 14377,10 Euro for AMS-800.

Given the point, that indications for the three procedures are not identical, these numbers still give an insight into what the costs of treating an incontinent patient in an *intention to treat to social continence* scenario might be.

### Concluding message

Treating PPI includes significant costs, however, these may be kept to a minimum by reducing hospital stay. And even though numbers might differ from country to country, the proportions of the different factors should be similar.

While costs are an interesting point, they should not factor in too much into the choice of treatment, since if all decisions were made based on costs alone, patients would be sent home with diapers. Therefore these costs, which are miniscule compared to some oncologic therapies, should be accepted given the immense impact on the patients Quality of life.

### References

1. Bretterbauer KM, Huber ER, Hübner WA Preoperative severe Incontinence does not correlate with low postoperative satisfaction rate: a single center experience from the Patient's perspective after 365 operations for male urinary incontinence; ICS Abstract 655; 2013

Disclosures

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