Cost Effective Balloon Sinuplasty
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Chronic rhinosinusitis affects over 30 million Americans. There are many ways to treat chronic sinus disease: medication, surgery, or both.

Even though our institution strongly believes that balloon sinuplasty has its place as a surgical modality, we must consider how to deliver this treatment at a reasonable cost. Balloon sinuplasty, as any new technology, increases the overhead for the facility where it is being performed; however, it does not increase the reimbursement for this method to the institution.

To decrease the cost of this technology, the physicians at our institution try to create a way to achieve this goal.

Method

We chose to delete the use of the disposable guide catheter for the frontal and maxillary sinuses and use a reusable stainless-steel olive-tip catheter. We also decided to just order one size of sinus balloon catheters instead of multiple sizes so as to limit our inventory for the institution.

In our experience, we decided that Relieva solo sinus balloon catheter (7 mm x 16 mm) was the optimal choice.

We were also very concerned about the exposure to radiation with fluoroscopy, so we decided to limit fluoroscopy to the frontal sinuses only, and do the balloon sinuplasty under direct visualization to the maxillary sinuses.

We used the olive-tip cannula to palpate the natural ostium for the frontal and maxillary sinuses, followed by the guide wire. We were able to insert the guide wire into the frontal sinuses under fluoroscopy. We then used the balloon catheter and placed it over the guide wire, after removing the olive-tip cannula. On very few instances, we had to use a Blakesley’s non-cutting forceps to help guide the balloon catheter into the frontal sinus.

With the fluoroscopy, we were able to identify the balloon with the radio-opaque markers and inflate it without any difficulty to open the frontal sinus. We used this same technique in the maxillary sinuses, however, we did not use fluoroscopy.

With the use of a re-usable olive-tip catheter and using the same balloon catheter on the frontal and maxillary sinuses, this decreased the cost of the procedure for our institution.

Results

The outcome of all the 60 patients was very successful. None of the patients had to return for any revision surgery or additional functional endoscopic surgery. We were able to use the olive-tip catheter instead of the disposable guide cannula to identify and palpate the maxillary and frontal sinuses. Using a disposable catheter guide for the frontal and maxillary sinuses was a cost of $825 to the institution.

By just deleting disposable guide cannula, we saved $37,500 on 60 patients who had balloon sinuplasty. This is a significant savings for such a small population.

We also decreased the cost of the balloon sinuplasty procedure by agreeing to stock one size of balloon catheter in our inventory. Furthermore, by using direct visualization to dilate the maxillary sinus, we were able to decrease the fluoroscopy exposure to the patient and decrease costs as well.

Conclusion

The use of an olive-tip catheter in the basic functional endoscopic sinus set decreases the cost of performing balloon sinuplasty. The balloon-tip catheter can replace the disposable catheter guide without compromising the surgical procedure. We feel this is a very easy process to use in opening the frontal and maxillary sinuses and should be considered in decreasing the cost of this new procedure.

We were able to save approximately $825 per procedure since we originally had to use two catheter guides per case (a 70-degree guide was used for the frontal and a 90-degree guide was used for the maxillary sinuses). This was a total savings of about $37,500 for our institution.

We feel that balloon sinuplasty can play a significant role as a modality in the treatment of chronic rhinosinusitis. When it is used for the cases that meet the criteria for this procedure, the patients were able to return to work within 4 days of surgery and all had minimal complaints of discomfort.

After one year of follow-up, they were all grateful of having balloon sinuplasty versus the traditional surgery.

Objective

Balloon Sinuplasty is a new procedure that is gaining popularity in the United States. However, with new technology, there is an increase in cost.

We decided to change the method of delivery in performing balloon sinuplasty in 60 patients and monitor the cost savings to the facility. We performed surgery on the maxillary and frontal sinuses in all patients in this group.

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