

Myringoplasty: A Comparison of Bismuth Iodoform Paraffin Paste Gauze Pack and Plane Gauze (containing Lococotien with Veoform)

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Abstract:

Objectives: To assess difference between two methods of post-operative ear packing: bismuth iodoform paraffin paste (BIPP) versus plane gauze containing steroid and antibiotics (lococotien with veoform)

Methods: A retrospective study of patients who had undergone myringoplasty at our hospital from January 2005 to January 2007. Data, including age, size of perforation surgical approach, use of post-operative ear dressings, complications were collected from the patient notes and analysed. The overall success rate of the operation (with success being defined as an intact tympanic membrane at 12 months) was noted

Results: Two hundred eighteen myringoplasties where data were completed are included in this study. Age ranged from 12 to 65 years (mean age 35 years) and the mean follow-up period was 12.61 months. The overall success rate was 83.5 percent. The success rate for BIPP and plane gauze (lococotien with veoform) was 80.9 and 86.4 percent respectively ($p = 0.272$). In BIPP group (23.5%) developed granulation tissue formation in external canal compare to 11.7 percent of (lococotien with veoform) group ($p = 0.023$).

Conclusion: We found no significant difference in the success rate of myringoplasty between the BIPP and (lococotien with veoform) groups. However, there was a statistically significant difference between the two groups in in term of granulation development. Packing with (lococotien with veoform) gauze has lower tendency to develop granulation tissue in the external canal following myringoplasty.

Key words: myringoplasty, ear packing and (lococotien with veoform)

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Introduction

Myringoplasty is a commonly performed ear surgery. Many factors influencing the success rate including the age, site and size of perforation, surgical technique and the experience of surgeon. In general, the success rate is ranging between 65 to 90 %^(1,2)

Packing of external canal is an established way of practice in most of the hospitals with the belief that it may hold the graft in place, protect the operated site, prevent sagging of posterior canal wall and contain the bleeding.

The type of ear packing used is variable and probably is determined by availability, previous training, personal preference rather than evidence. Various types of ear packing have been described in literatures, but nothing has been mentioned about lococotien with veoform. Therefore, we conduct this study to evaluate the difference in the outcome of myringoplasty using two types of ear packing BIPP and lococotien with veoform.

Methods

This is a retrospective chart review study of all patients who had myringoplasty at King Abdulaziz University Hospital from January 2005 to January 2007. Only patients who had myringoplasty were included in the study. Patients who had other procedure like mastoidectomy and incomplete data or follow up were excluded.

The following data: age, size of perforation surgical approach, use of post-operative ear dressings, follow up and complications were collected from the patient notes and analyzed. The success rate was defined as an intact tympanic membrane at 12 months. Statistical analyses of the difference in success rates between BIPP and (lococotien with veoform) groups and the development of granulation were conducted using the chi-square test.

Results

Two hundred eighteen myringoplasties whose data were completed are included in this study. Age ranged from 12 to 65 years (mean age 35 years). The size of perforation as noted from the file was ranging from small to subtotal perforation.

Table (1). The size of perforations recorded from charts.

Size of Perforation	Frequency	Percent
Small	81	37.2
Medium	25	11.5
Large	38	17.4
Subtotal	74	33.9
Total	218	100.0

The surgical approach was via postauricular approach for the all of patients (Table 2).

Table (2). The number and percentage of the BIPP and lococotien with veoform groups.

Type of Ear Packing	Frequency	Percent
BIPP	115	52.8
Lococotien with veoform	103	47.2
Total	218	100.0

The mean follow-up period was 12.61 months. The overall success rate was 83.5 per cent. The success rate for BIPP and plane gauze (lococotien with veoform) was 80.9 and 86.4 percent respectively (Table 3). However, In Person Chi-Square test for the difference between the success rate of BIPP and (lococotien with veoform) the P value was 0.272 which means there is no statistically significant differences between the two groups in term of success rate.

Table (3). The result of myringoplasty comparing BIPP and Lococotien with Veoform groups,

Type of Ear Packing	Result		Total
	Success	Fail	
BIPP	93 42.7%	22 10.1%	115 52.8%
Lococotien with veoform	89 40.8%	14 6.4%	103 47.2%
Total	182 83.5%	36 16.5%	218 100.0%

Table (4). The local effect in term of granulation formation between BIPP and lococotien with veoform) groups.

Ear Pack Granulation	Granulation		Total
	No granulation	granulation	
BIPP	88(40.4%)	27(12.4%)	115(52.8%)
Lococotien with veoform	91(41.7%)	12(5.5%)	103(47.2%)
Total	179(82.1%)	39(17.9%)	218(100.0%)

In BIPP group 20.8 % developed granulation tissue at external canal compare to 11.7 percent of lococotien with veoform group. (Table 4) However, In Person Chi-Square test for the difference between the BIPP and (lococotien with veoform) in term of granulation

development in the external canal the the P value was 0.023 which means there is a statistically significant differences between the two groups.

Discussion

In most of otolaryngological centers, ear packing seems to be an accepted practice although there is now clinical evidence based for that. It is traditional practice to place a dressing pack within the external ear canal following myringoplasty; this is believed to protect the operated site, hold the graft in situ, prevent sagging of the posterior canal wall and, perhaps, contain bleeding⁽³⁾.

The BIPP pack was introduced by Rutherford Morison in 1916 for the treatment of infected, suppurating war wounds⁽⁴⁾. The use of BIPP is not without complication as hypersensitivity reaction of variable degree. It is associated with a Type IV (delayed) contact hypersensitivity allergic reaction which can delay healing and necessitate return to hospital.⁵ However; lococotien with veoform contains Flumethasone pivalate which is a moderately potent glucocorticoid designed for local application. It exerts an anti-inflammatory, anti-allergic, vasoconstrictive and antiproliferative effect and Clioquinol which has the antimicrobial component of Locacorten-Vioform cream, is active against a broad spectrum of pathogenic microorganisms, including fungi (e.g. *Candida*, *Microsporum*, *Trichophyton*) and Gram positive bacteria.

It seems anti-inflammatory property and antibacterial activity of lococotien with veoform are probably the reasons that less patients had developed local complication in the form of granulations in external canal which we believe to be an advantage over BIPP.

Conclusion

We found no significant difference between the two groups in term of success rate however there was a significant difference between the two groups in terms of granulation tissues development in the external canal which renders lococotien with veoform a suitable, alternative and with less tendency to have local complications in following myringoplasty. Further control prospective study may be more helpful to assess the difference between the two methods.

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