IMPACT OF ENT FOLLOW-UP AFTER MYRINGOTOMY AND GROMMET INSERTION

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ABSTRACT

Myringotomy and insertion of ventilation tubes is one of the commonest procedures performed in an ENT department. As yet in the UK, there is neither national consensus regarding post-grommet follow up nor any accepted alternative methods available for follow up. **OBJECTIVE:** In this paper we aim to look at our experience of patient follow-up, complication rates following grommet insertion and whether these could have been managed in Primary Care or actually did require specialist input, the impact on resources, the cost implications and ways forward to tackle these issues. **METHOD:** All 181 patients who had Myringotomy and Grommet (M&G) insertion in 2005 were followed up for 2 years using their case notes. **RESULTS:** We found that 75% of patients required no intervention at any time following the procedure. 25% developed a complication with only 6% requiring definitive hospital treatments, the remaining requiring only topical or oral antibiotics. There were 433 appointment slots used to follow-up M&G patients of which only 10% of the allocated slots were used for patients who required definitive treatment. Using published figures we calculated a potential cost saving within our department alone. **DISCUSSION:** With no national guidelines available to guide M&G follow-ups, we look at literature available and we explore whether follow-ups are necessary, when they should occur, by whom they should be carried out and alternative modalities available along with issues surrounding these.

**Key words:** Grommet insertion, Follow-up Studies, Complications, Economics

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INTRODUCTION

Otitis media with effusion (OME) or glue ear is a very common condition affecting 7 in 10 children at least once before the age of four. Five in 10 cases regain normal hearing within 3 months, 9 in 10 within a year and 1 in 20 will have hearing problems persisting for more than a year. The incidence of glue ear decreases significantly as children reach the age of eight.

Myringotomy and Grommet insertion (M&G) not only improves hearing in children, but also has beneficial effects on social interactions, behavioural development, education and speech acquisition in young children. Once insertion of a grommet is undertaken, it usually stays in place for between 9 to 15 months before being extruded spontaneously. Approximately 5% of children with a grommet develop ear discharge, usually following a cold, and can be treated with antibiotic ear drops.

As yet in the UK, there is neither national consensus regarding post-grommet follow up nor any accepted alternative methods available for following these patients up. In this paper we aim to look at our experience of patient follow-up, complication rates following grommet insertion, the impact on resources, the cost implications and ways forward to tackle these issues.

AIMS

The aim of this study is to determine the number of patients who attended a follow up clinic after myringotomy and grommet insertion during the year 2005. We also aim to assess the nature of complications and whether these could have been managed in Primary Care or actually did require specialist input to resolve them. We also wanted to determine the number of times the patient had follow-up appointments irrespective of their symptom status, the number of patients who had been discharged and highlight the cost and time implication for the health service.

MATERIALS AND METHODS

The data was extracted from the computerised operating theatre logbooks held at the James Paget University Hospital for all patients who underwent M&G during 2005. Once the list was collated, the clinical notes were examined and a Performa filled in looking at a number of above factors. All patients were included in this audit.

The Performa looked at the indications for M&G, type of grommet inserted, whether unilateral or bilateral, the complications developed, any treatment that was given, the number and timing of follow-ups along with
whether the patient was discharged, or still being followed up and the reasons
for follow up if any.

The economic implications were determined by looking at the total
number of follow-up appointment slots utilised in both patients who did and
did not develop complications. Then the figures published by The British
Association of Otorhinolaryngologists (ENT-UK) was used to calculate the
cost of these.

RESULTS AND ANALYSIS

Demographics

A total number of 181 patients had a M&G carried out in 2005, and
followed up until 2007, at the James Paget University Hospital. Of these, 177
patients had a standard Shah’s grommet whilst only 4 required T-tubes. Most
of these were bilateral (n=143) with 22 patients having right and 16 patients
only left grommet insertion.

Complications

136 patients required no intervention at any time following the procedure.
But 45 patients developed a complication that required treatment at some
point following the operation (25%). Topical antibiotic drops were given to
43 of these patients, 6 required oral antibiotics, whilst only 12 patients needed
to be admitted for definitive treatment. From these 12 patients, 5 required
grommet removal due to pain, 5 due to persistent discharge and 2 required re-
insertion of a grommet due to recurrence of OME. This showed that out of all
patients that had a M&G, 18.2 % of them developed a complication that could
have been treated in the Primary Care with topical or oral antibiotics, whilst
only 6.6 % required definitive hospital treatment.
Follow-up Appointments

Figure 1: The number of different follow-up appointments requested by the ENT Team

Figure 2: A) This shows the outcome of all 181 patients at the end of the 2 year follow-up period. B) This graph shows the demographics of the 128 patients still being followed-up.
A first appointment was made for 180 patients (total 181), of which 12 patients did not attend. Only one patient was not requested a follow-up. Figure 1 shows the number of follow-up appointments for different time periods requested by ENT surgeons. The majority of appointments (119) were made as 6 monthly follow-ups, whereas 6 appointments were made for a 2 year follow-up and 12 made as an open appointment at some point during follow-up.

From January 2005 until January 2007, there were only 44 patients who were discharged. Nine patients were left with a PRN follow-up whilst 128 of the 181 patients were still actively being followed-up. Out of the 128 patients, 90 patients remained asymptomatic, 4 had a problem at some time during the follow-up period, whilst only 34 had on-going problems. Figure 3 shows the documented reasons for follow-up of these 34 patients.

**Figure 3:** This graph shows the documented reasons for continued follow-up of the 34 patients with on-going problems.
APPOINTMENT SLOTS, CLINICAL AND ECONOMIC IMPLICATIONS

Figure 4: A) Total number of appointment slots and their usage. B) Total number of appointment slots and those used by patients who required definitive hospital treatment.

In total there were 433 appointment slots made for the purpose of post M&G follow-ups. 272 of these appointment slots were used for patients who never developed a problem at any time. There were 161 slots used for patients who developed a problem at some point post-operatively, even if it was a one-off infection, whereas 62 slots were wasted due to patients who did not attend. Out of the 433 appointment slots, only 47 slots were used for patients who required an admission, therefore 386 slots could have potentially been used for new referrals.

The ENT-UK has published out-patient tariffs for new and follow-up patients. These are: Adult new £113, adult follow-up £60, child new £127, child follow-up £68.

Using the published figures, we can see that 30 adult appointment slots were made available to those who never had any treatment on follow-up and similarly 240 appointments for children. Using these figures published by ENT-UK we can see a potential cost saving of £1800 on adults and £16320 on children, and a total a saving of £18120 for the Primary Care Trusts.

DISCUSSION

There are no nationally agreed guidelines for follow-up of patients following myringotomy and grommet insertion. Post operative practice varies greatly between trusts, hospitals and sometimes consultants within a single department.

We have observed that a significant amount of resource goes into following up post M&G patients. We therefore need to consider if we really need to follow up all patients for long periods.
Firstly, we need to contemplate if we need to follow these patients, post operatively. Considering the negative impact that OME has on children and the potential benefits the operation can bring, it would make sense to ensure all patients are benefiting from the procedure. With increasing emphasis on personal professional development, it would also make sense for the surgeon to follow up, their own patients at first appointment. This first appointment was within 3 months for the majority of our patients to allow time to assess benefits gained from the operation. There is no suggestion that follow up within a week as compared to one month has any effect on complications or GP consultations.

We need to then consider if there are benefits of long-term follow-up of all these patients. Some centres consider late complications of grommet insertion to be common however our study did not reveal this within our trust. Grommets are only in-situ for an average time of 1 year and generally extrude themselves with no intervention. Furthermore, the older the child, M&G becomes less likely. Therefore we could consider following up patients who may require ENT intervention, such as the very young, those with T-tube insertion, patients with other medical conditions such as Down’s syndrome, those with no improvement or developed early complications.

If patients are to be discharged back to the care of their General Practitioners then a number of considerations need to be taken into account. First of all the parents need to be educated. A study looking at parental knowledge found that despite high satisfaction with the procedure, they failed to appreciate the existence, nature and frequency of possible complications. Therefore they could be made aware of what problems to look for and present to their GP or hospital if required. A study looking at the management of post operative otorrhoea found GPs prescribed oral antibiotics whereas hospital consultants took swabs and initiated treatment with topical drops. We also found similar trends in our study of those few patients who suffered this complication. We also found different members of the team used different antibiotics for the same condition as was found in this paper, although this was not specifically looked at in our audit. We therefore feel that patient awareness, GP education and locally agreed protocols could be helpful in post operative M&G follow-up management.

Many centres use different strategies, and increasingly so. The middle road between surgeon follow ups and discharge seems to be nurse lead clinics. This is being used within a few centres around the country with some success. This is being carried out in two main ways. Firstly, as outpatient clinics run by hospital specialist nurses, and secondly as telephone follow-ups. Both here and in the USA, this has proven successful with reduced clinic waiting times and volume, leaving surgeons to see more complex cases. Patient satisfaction also seems to be high.
We feel that a combination of these would be more appropriate. First follow-up by the surgeon allows the success of the procedure and benefits of the patient to be assessed. They can then decide who needs to be continually followed up by the surgical team. Thereafter patients can be followed up for a limited time by specialist nurses, either in a clinic or over the telephone, and referred back to the surgeon if there are any problems that arise. If complications do not arise on subsequent consultations, then patients should be discharged back to the care of their GPs. We feel that this would reduce the unnecessary costs of surgical team appointments, did not attend (DNA)s in major clinics and emphasize the fact that the majority of patients never developed a complication post operatively. We need to step back, assess our clinical practice, and produce local guidelines for M&G follow-up depending upon our local performance and complication rates, to prevent further waste of resources within the National Health Service.

SUMMARY

What we already know:

- OME is a very common condition affecting mostly children with huge social, behavioural, educational and speech implications.
- As yet no guidelines as to how to follow up these patients after M&G.
- No recently published data regarding potential complication rates
- No published figures as to the cost and time implications on the health service in following up post M&G patients.

Our Study Suggests:

- A new strategy for post M&G follow-ups.
- Most patients did not develop complications and were unnecessarily followed-up.
- Most complications arising can be dealt with by GPs with adequate training to standardise treatment and refer to specialists if needed.
- Increased role of nurse lead clinics and primary care follow-up.
- Potential huge economic savings to PCTs.

REFERENCES: