

**Article: Intra-Arterial Embolisation in Otolaryngology – A Four-Year Review**

(SMJ Vol 44 Issue 1 January 2003)

Dear Sir,

I read with interest the above-mentioned article published in the January 2003 issue of the Singapore Medical Journal. Drs Low and Goh should be congratulated for conducting a review of a controversial topic using locally available data. Their article sheds further light on an area that merits attention as its application could have potential benefits for our patients. However, several issues come to mind on reading the article. Perhaps the authors could address some of these issues:

## 1. Demographics

Aside from those mentioned in the article, perhaps more information could be given on co-morbidity, stage of tumour (in cases with carcinoma), concomitant and/or subsequent treatment (for all cases) and risk factors for bleeding. This will allow readers to determine if confounders are present (if any) that may have prolonged or decreased survival in spite of embolisation.

## 2. Outcomes/Complications

Perhaps the authors could provide a clearer definition of the outcomes and complications. Aside from the occasional mention in the text, these definitions were not clearly explained a priori. A “well” outcome could mean one of several things. Similarly, “success” was also not defined clearly. To clearly show the benefits of embolisation, several outcomes could have been examined aside from those mentioned by the authors e.g. mean haemoglobin levels, amount of blood transfused, total hospital length of stay, cost-effectiveness ratio or 30-day mortality.

Aside from dichotomising patients into bleeding from oncologic versus non-oncologic cause and emergent versus non-emergent procedures, the embolisation procedure was not clearly described. It is thus unclear if all patients received a standardised procedure or if there were variations in the quality and standard of care, thereby affecting the outcomes.

## 3. Survival

Presenting that survival was prolonged by embolisation based on the data available was inappropriate. Again, survival could have been biased by many patient and disease factors such as risk factors for epistaxis, severity of disease on presentation, co-morbidity, tumour stage at presentation and subsequent treatment received. To further extrapolate and conclude prolonged survival from a case series such as the authors' is specious at best due to the inherent limitations of the data. In two of the large case series referenced by the authors<sup>(1,2)</sup>, survival calculations were not done and in the Asian series<sup>(3)</sup>, survival was treated as a dichotomous variable rather than as a continuous variable, both alluding to the limitations of case series data.

To better serve the authors' purpose, survival could have been defined using previously published definitions i.e. 30-day mortality and one and two-year mortality. A priori determined censorship criteria could also have been applied and the results plotted as a survival curve.

Finally, based on the results presented by Drs Low and Goh, there appears to be a role for further controlled studies. As a first step, the current data could be retrospectively compared to a control group and if the findings are significant, then perhaps in future, a prospective controlled trial could be carried out.

Yours sincerely,

Dr Benjamin Chua Soo Yeng, MBBS  
Currently Research Associate  
Duke Centre for Renal Outcomes and Health Policy Research  
Duke Clinical Research Institute  
Duke University Medical Centre  
Durham, North Carolina  
USA

**REFERENCES**

1. Moreau S, et al. Supraselective embolisation in intractable epistaxis: review of 45 cases. *Laryngoscope*, 1998; 108(6):887-8.
2. Tseng EY, et al. Angiographic embolisation for epistaxis: a review of 114 cases. *Laryngoscope* 1998; 108(4 Pt 1):615-9.
3. Mok JS, et al. Percutaneous embolisation to control intractable epistaxis in nasopharyngeal carcinoma. *Head Neck*, 1999; 21(3):211-6.

Dear Editor,

We thank you for the interest generated in our article. We did not find it feasible to address many of the points raised as our sample size of 30 was small and the numbers after dichotomy were even smaller. This was designed to be a descriptive case series that set out to review the scope of use of intra-arterial embolisation in the field of Otolaryngology and to delineate some of its advantages. It was not meant to generate statistically significant outcomes.

A “well” outcome simply meant “arrest of bleeding”. “Success” was not used in the text. The use of the term “survival” in the text was not in the usual statistical sense. As mentioned earlier, the sample size is too small for any significant conclusions to arise. It must be understood that in those oncological patients whose bleeding was severe enough to warrant intra-arterial embolisation, the negative outcome would be certain imminent death. In cases of massive haemorrhage such as these, patient and disease factors have little or no bearing on whether the patient survived or not. The survival (of the patient, not in the statistical sense) depended on whether the emergent treatment (in this case – embolisation) was effective or not. As these patients had a short life expectancy due to the nature of their illness, the “number of days survived” was deemed to be an accurate reflection of the time “bought” for them by intra-arterial embolisation.

Yours sincerely,

Dr Low Yin Mei  
Dr Goh Yau Hong  
Department of Otolaryngology  
Singapore General Hospital  
Outram Road  
Singapore 169608