

## Letters to the Editor

### Paragangliomas of the larynx

Dear Sir,

I have read with interest the recent paper of El-Silimy and Harvy entitled 'A clinico-pathological classification of laryngeal paraganglioma (El-Silimy and Harvy, 1992)'. In this paper, the authors describe a 47-year-old woman who presented with pain in the throat and was subsequently found to have an alleged malignant paraganglioma of the larynx in the region of the right arytenoid-aryepiglottic fold which ultimately required a total laryngectomy. Two years after laryngectomy, she developed metastasis to a single right cervical lymph node which was excised. At follow-up 10 years later, she was found to be free of disease.

The authors also reviewed the world literature on laryngeal paragangliomas (LPG's) and concluded from their analysis that there are two groups of LPG's, one of which (their Type I) pursues a rather innocuous clinical course with little tendency for local recurrence or metastasis and the other (their Type II) which is associated with chronic pain and an aggressive clinical course with frequent local recurrence and distant metastasis.

I, too, have recently reviewed the world literature on LPG's (Barnes, 1991) and have concluded, as well as others before me (Woodruff *et al.*, 1985; Wenig and Gnepp, 1989; Woodruff *et al.*, 1991) that almost all alleged malignant LPG's, especially those associated with pain, are in reality unrecognized atypical carcinoids (AC's). Many of the alleged malignant LPG's in the literature have contained mucus, formed glands, demonstrated immunopositivity for calcitonin or carcinoembryonic antigen (CEA), and/or exhibited microvilli on ultrastructural examination. None of these features are found in authentic LPG's. All, however, may be found in AC's.

Since El-Silimy and Harvy almost assuredly reviewed the same cases of LPG's reported in the literature as I did, it would appear that they did not critically evaluate each case but rather accepted the diagnosis at face value. As a result, I believe that the data generated from their literature review are flawed and accordingly, El-Silimy and Harvy continue to propagate the myth that a certain subset of LPG's, particularly those associated with chronic pain (their Type II), are aggressive tumours.

I also have some concern about the authenticity of the 'malignant LPG' contained in the report of El-Silimy and Harvy (1992). The authors, unfortunately, provide very little pathological details. Their statement that 'dense core granules seen on electron microscopy in this case substantiates the diagnosis of paraganglioma' is irrelevant, since neurosecretory granules may be seen in both LPG's and AC's. Furthermore, the single haematoxylin-eosin section of the tumour does not show a 'Zellballen' arrangement of tumour cells which is so characteristic (but not necessarily diagnostic) of paragangliomas. Most importantly, the authors do not indicate whether immuno-

peroxidase stains for cytokeratin, CEA, and calcitonin were done. Since AC's are positive for these antigens and LPG's are negative, one would be able to make the distinction between these two tumors with a great degree of confidence (Googe *et al.*, 1988; Barnes, 1991; Woodruff *et al.*, 1991). I also would appreciate very much the opportunity to review the microscopic slides of their case and to perform the above immunostains in my own laboratory.

In summary, I continue to believe that the overwhelming majority (97 per cent) of LPG's are benign and that most alleged malignant LPG's contained in the literature cannot be substantiated on close scrutiny and probably represent AC's (Barnes, 1991).

Yours sincerely,

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### References

- Barnes, L. (1991) Paragangliomas of the larynx. A critical review of the literature. *ORL* 53: 220–234.
- El-Silimy, O., Harvy, L. (1992) A clinico-pathological classification of laryngeal paraganglioma. *Journal of Laryngology and Otology* 106: 635–639.
- Googe, P. B., Ferry, J. O., Bhan, A. K., Dickersin, G. R., Pilch, B. Z., Goodman, M. (1988). A comparison of paraganglioma, carcinoid tumor, and small-cell carcinoma of the larynx. *Archives of Pathology and Laboratory Medicine* 112: 809–815.
- Wenig, B. M., Gnepp, D. R. (1989) The spectrum of neuroendocrine carcinomas of the larynx. *Seminars in Diagnostic Pathology* 6: 329–350.
- Woodruff, J., Shah, J. P., Huvos, A. G., Gerold, F. P., Erlandson, R. A. (1985) Neuroendocrine carcinomas of the larynx. A study of two types, one of which mimics thyroid medullary carcinoma. *American Journal of Surgical Pathology* 9: 771–790.
- Woodruff, J. M., Senie, R. T. (1991) Atypical carcinoid tumor of the larynx. A critical review of the literature. *ORL* 53: 194–209.

### Paragangliomas of the larynx

Dear Sir,

In the July 1992 issue of this journal, Mr El-Silimy and Dr Harvy present a case of a laryngeal tumour diagnosed as a metastasizing laryngeal paraganglioma and propose a clinico-pathological classification of laryngeal paraganglioma.

The case presented is not a convincing case of paraganglioma. It is much more typical of a neuroendocrine carcinoma (atypical carcinoid) both in clinical presentation and pathology. The histology shown does not show characteristic 'Zellballen'. Electron microscopic demonstration of the neurosecretory granules does not discrimi-

nate between neuroendocrine carcinoma and paraganglioma as they are present in both types of tumour. The most useful diagnostic method of differentiating neuroendocrine carcinoma from paraganglioma is immunohistochemistry, yet none is presented in the report.

Almost all reported cases of metastasizing paraganglioma in the literature are unconvincing. I agree with Woodruff *et al.* (1985), Wenig *et al.* (1988) and Barnes (1991) that these are neuroendocrine carcinomas (atypical carcinoids). I reviewed a large series of tumours originally diagnosed as metastasizing paragangliomas as well as four tumours diagnosed as paragangliomas. None of the metastasizing paragangliomas were found to be such after review of histology supplemented with immunohistochemistry. They were all found to be neuroendocrine carcinomas. Many of these tumours presented with pain often referred to the ear. A number of cases had a long history before a tumour could be detected. It is interesting to note that the original biopsy report was of adenocarcinoma as this is often the initial diagnosis of neuroendocrine carcinoma on biopsy.

The argument over differentiating the two types of tumour is not just a pathological argument. Treatment of paraganglioma and neuroendocrine carcinoma is different. Rather than divide these tumours into type I and type II paragangliomas, they should be diagnosed and classified as paraganglioma and neuroendocrine carcinoma. Otherwise, paragangliomas will be overtreated.

Yours sincerely,

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#### References

- Barnes, L. (1991) Paragangliomas of the larynx. A critical review of the literature. *ORL* **53**: 220–224.
- El-Silimy, O., Harvy, L. (1992) A clinico-pathological classification of laryngeal paraganglioma. *Journal of Laryngology and Otolaryngology* **106**: 635–639.
- Milroy, C. M., Rode, J., Moss, E. (1991) Laryngeal paragangliomas and neuroendocrine carcinomas. *Histopathology* **18**: 201–209.
- Wenig, B. M., Hyams, V. J., Heffner, D.K. (1988) Moderately differentiated neuroendocrine carcinomas of the larynx. A clinicopathologic study of 54 cases. *Cancer* **62**: 2658–2676.
- Woodruff, J. M., Gerold, F. P., Huvos, A. G., Shah, J. P., Erlandson, R. A. (1985) Neuroendocrine carcinomas of the larynx. A study of two types one of which mimics thyroid medullary carcinoma. *American Journal of Surgical Pathology* **9**: 771–790.

#### Author's reply

##### Paragangliomas of the larynx

Dear Sir,

Debate and contention about the content of any published paper provides a positive indication that the focus of the study is considered valid and topical by professional peers and thus, we welcome the fact that 'A clinico-pathological classification of laryngeal paraganglioma' has stimulated intellectual debate amongst our colleagues. Indeed, it is clear that, since we state in our paper that some of the reported cases of paraganglioma may have been misdiagnosed, there is some measure of agreement between our-

selves, Professor Barnes and Dr Milroy. Nevertheless, it is clear from the commentary provided by these latter authors that we disagree in several relevant respects which we will attempt to summarize and reply to.

Although Professor Barnes is clearly critical of our findings at the level of both conceptual and technical adequacy, Dr Milroy's criticism is mainly of a technical nature – (this is, of course, perfectly consistent with the different background of each author). We will therefore construct our response accordingly:

#### Conceptual adequacy

In his world literature review, Professor Barnes states that almost all 'alleged' malignant paraganglioma are actually mis-diagnosed atypical carcinoids (Barnes, 1991). He reaches this conclusion by adopting the somewhat spurious methodology of categorizing examples of laryngeal paraganglioma obtained from the world literature review according to whether they are accompanied by photomicrographic evidence and then discounting those that are not. Clearly, the epistemological basis of Professor Barnes' argument is counterfactual since his only justification for discounting a large number of cases rests on the premise that the relevant (in his opinion) evidence is unavailable? We find it somewhat paradoxical therefore, that Professor Barnes questions our 'critical evaluation of each case' when his own conclusions are based on a review that deliberately avoids a critical analysis of 'each case' because of the pre-determination or conceptualization of what constitutes acceptable evidence. In short, we would assert that Professor Barnes' methodological design provides a conceptually inadequate basis for supporting his general conclusions. Nevertheless, it would be an equally counterfactual claim if we were to attempt to support our findings merely on the basis of this inadequacy. We would not and do not suggest that Professor Barnes' data is '... flawed', but only that it is **limited** by some aspects of his methodological design. Our own data are also limited by the aforementioned absence of a large amount of evidence and thus, given that Barnes (1991) recognizes the existence, albeit small (circa 3 per cent) of malignant LPG's, the essence of the conceptual distinction between his position and that adopted by ourselves is a matter of degree or scale rather than one of substance. In sum, we believe that to adopt a methodology which has an inherent capacity to omit circa. 60 per cent of the number of cases available for a retrospective study does not provide a sufficient framework from which generalizations can be applied. However, we also accept that the debate cannot be fully resolved until more evidence becomes available and more research is undertaken. Dr Milroy's letter indicates that he also finds 'almost all' cases of metastasizing paraganglioma 'unconvincing' but provides less information about his conceptualization of what should or should not constitute evidence.

#### Technical adequacy

As mentioned above, both Professor Barnes and Dr Milroy question the validity of the diagnosis of the case presented in our paper and, in Professor Barnes' case, would appreciate the opportunity to review the microscopic slides pertaining to the case in question. Again, we

find the latter request somewhat strange since Professor Barnes has already reviewed the material and, although he did not agree with our general arguments, he did not take the opportunity to disagree with our diagnosis **before the publication of his world literature review!** However, with regard to the comments of both critics about the absence of microscopic or immunohistochemical data, we would assert that there is no histological or immunocytochemical difference between our types I and II (El-Silimy and Harvy, 1992). Moreover, we are in complete agreement with the view that the 'Zellballen' arrangement of tumour cells is of no diagnostic value with regard to paraganglioma and we would refer Professor Barnes and Dr Milroy back to our paper (El-Silimy and Harvy, 1992). In addition, we can confirm that immunoperoxidase stains for cytokeratin and CEA were done and proved negative – enabling us, as Professor Barnes notes, to distinguish the LPG from an atypical carcinoid.

### Conclusion

Although we may now be able to improve our diagnostic ability with regard to paraganglioma, for example, we can distinguish it easily from neuroendocrine carcinoma, it is less easy to differentiate between metastatic (malignant) and non-metastatic paraganglioma. We would like to assure Dr Milroy that being vigilant and having a high suspicion index cannot be considered as overtreatment. However, the essence of our argument is to establish the existence of metastatic (malignant) paraganglioma, however we accept that an accurate estimate of the incidence of metastatic paraganglioma (our Type II) will necessarily, have to wait for the results of more research and/or the availability of more evidence.

Yours sincerely,  
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### References

- Barnes, L. (1991) Paragangliomas of the larynx. A critical review of the literature. *ORL* 53: 220–234.  
El-Silimy, O., Harvy, L. (1992) A clinico-pathological classification of laryngeal paraganglioma. *Journal of Laryngology and Otology* 106: 635–639.

### The value of head dressings for middle ear surgery

Dear Sir,

Mr Rowe-Jones and Mrs Leighton are to be congratulated for their brave questioning of the surgical dogma on post-operative head bandages. It is unfortunate that such a study may not be sufficiently powerful to convince colleagues that such dressings can safely be discarded. Perhaps the main concern is that head dressings reduce the incidence of post-operative haematomata, although these do occur despite 'pressure' bandaging. Ninety-five per cent confidence interval analysis shows that the difference in the incidence of haematoma between bandaged and non-bandaged patients in this study might be anywhere between 5.5 per cent more or less. A similar study of 1000 patients finding 10 haematomata in each group would still give 95 per cent confidence limits for the difference in incidence of haematoma between 1.7 per cent more or

less. To convince that there is no difference between treatments may be more difficult than to find a difference.

It would be interesting to know whether the findings of this study have affected the authors' or the authors' colleagues routine clinical practise.

Yours sincerely,  
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### Reference

- Rowe-Jones, J. M., Leighton, S. E. J. (1993) The value of head dressings for middle ear surgery. *Journal of Laryngology and Otology* 107: 17–19.

### Acute tonsillectomy in the management of infectious mononucleosis

Dear Sir,

Enlargement of the pharyngeal tonsils in infectious mononucleosis (IM) is frequently an important component of the clinical picture but pronounced obstruction of the upper respiratory passages is rare. An analysis of 11 cases of infectious mononucleosis with varying degrees of pharyngeal obstruction is presented. During the acute phase of disease, tonsillectomy was performed and also adenoidectomy in four of the cases. The patients improved rapidly after the operation and were discharged after an average of four days. No noteworthy complications of the operation occurred. An unexpectedly great number of cases of abscess formation were found at operation. Histological examination of the tonsils revealed changes in the lymphoid tissue which were characteristic but not specific for infectious mononucleosis together with extensive necrosis of the tonsillar surface. On the basis of this investigation, the authors consider that acute tonsillectomy is indicated in infectious mononucleosis with threatening occlusion of the upper airway and in cases of suspected peritonsillar abscess. In cases of slight or moderate respiratory obstruction, acute tonsillectomy may be considered in the therapeutic deliberations if the course of the condition is protracted and steroid treatment does not have the desired effect.

The eleven patients who underwent operation were taken into the hospital between November 1986 and November 1987.

Later we did a control of 27 patients with infectious mononucleosis (IM), who did not need an operation and were not given steroids. The time of observation was seven months. We found four patients (15 per cent) who later required a tonsillectomy.

Our conclusion is that with, or without, treatment with steroids given to patients with a severe bout of IM, the condition seems to dispose to later recurrent tonsillitis and maybe this advocates a more active attitude to tonsillectomy under safe anaesthetic procedure.

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