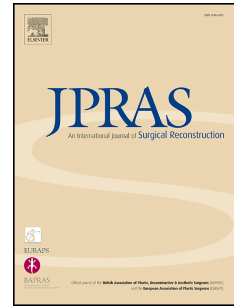


Accepted Manuscript

RE: Pleomorphic Adenomas: Post-operative Radiotherapy is Unnecessary Following Primary Incomplete Excision: A Retrospective Review

J.A. Dunne, MRCS, P.L. Matteucci, FRCS (Plast), M. Foote, FRANZCR, D.B. Saleh, FRCS (Plast)



PII: S1748-6815(15)00095-9

DOI: [10.1016/j.bjps.2015.02.026](https://doi.org/10.1016/j.bjps.2015.02.026)

Reference: PRAS 4545

To appear in: *Journal of Plastic, Reconstructive & Aesthetic Surgery*

Received Date: 5 February 2015

Accepted Date: 9 February 2015

Please cite this article as: Dunne J, Matteucci P, Foote M, Saleh D, RE: Pleomorphic Adenomas: Post-operative Radiotherapy is Unnecessary Following Primary Incomplete Excision: A Retrospective Review, *British Journal of Plastic Surgery* (2015), doi: 10.1016/j.bjps.2015.02.026.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

RE:

**Pleomorphic Adenomas: Post-operative Radiotherapy is Unnecessary
Following Primary Incomplete Excision: A Retrospective Review**

JA Dunne¹ MRCS PL Matteucci² FRCS (Plast) M Foote FRANZCR³ DB Saleh⁴ FRCS
(Plast)

1 ST4 Plastic Surgery Registrar, St George's Hospital, Blackshaw Road, London, SW17
0QT, UK

2 Consultant Plastic and Reconstructive Surgeon, Castle Hill Hospital, Castle Road,
Cottingham, East Yorkshire, HU16 5JQ, UK

3 Radiation Oncologist, Dept Radiation oncology, Princess Alexandra Hospital, School of
medicine, University of Queensland, Brisbane, 4102, Australia

4. Plastic Surgery fellow, Princess Alexandra Hospital, Ipswich road Wooloongabba,
Brisbane 4102, Australia

Running title: Recurrence of pleomorphic adenoma

Corresponding Author:

JA Dunne

Department of Plastic Surgery, St George's Hospital, Blackshaw Road, London, SW17
0QT

Tel: +447870987503

Email: jonathan.a.dunne@gmail.com

Presentations at meetings: N/A

Keywords: pleomorphic adenoma, surgery, radiotherapy

ACCEPTED MANUSCRIPT

We read with interest the article by Robertson *et al*,¹ which suggests radiotherapy should not be used to manage incompletely excised pleomorphic adenoma.

The authors identify their follow up of 85 months as relatively short yet make firm recommendations. The first recurrence has been reported twenty years after initial treatment and facial palsy complicates up to a third of patients undergoing surgery, although it is frequently temporary.²⁻⁴ However, surgery in recurrence carries a higher risk of facial nerve injury,⁵ which is more likely to impact on the group who did not receive post-operative radiotherapy. Moreover, pleomorphic adenoma (PA) recurrence can involve the skull base or old scars making adequate salvage surgery difficult and often requiring loco-regional reconstruction adding a layer of complexity and surgical morbidity. This leaves a situation whereby a patient can conceivably have a combination of facial nerve sacrifice, residual disease and therefore the need for subsequent radiotherapy. Despite the inadequate follow-up in this study it is demonstrated radiotherapy does indeed lower crude recurrence rate.

The functional implication of facial nerve sacrifice at any age is profound. It condemns patients to lifelong surgery to obtain eye protection and oral continence at the very least. Whilst techniques have evolved since the 1980s, rehabilitating patients with facial nerve loss is resource intensive, multi-stage and often socially disabling.

Radiation techniques have also evolved significantly in recent decades. With the advent of computer tomography (CT) planning and conformal delivery techniques, the volume treated has reduced compared to older series using field-based treatment. Many patients now are treated with intensity modulated radiotherapy (IMRT). With its highly

conformal dose distributions and relative skin sparing there is a further reduction in intermediate and high doses to the surrounding normal tissues. This likely translates to a reduction in both acute (skin and mucosal) as well as late (functional and cosmetic) toxicity. Radiotherapy following salvage may also require a larger volume to be treated than if it was delivered after initial surgery, particularly for those with multifocal recurrent disease.

A good example of this is in a 34 year old male we treated who had recurrent PA in the right parotid bed 11 years after primary excision. The patient did not receive post-operative radiotherapy. Salvage surgery mandated a radical parotidectomy and limited lateral temporal bone resection with cervicofacial rotation flap, and the facial nerve was reconstructed with a nerve to masseter transfer. Salvage surgery margins were close and so adjuvant radiotherapy was advised on the presumption that further failure at the skull base would be inoperable. This is not a unique case.

We believe the authors allude to a bespoke multi-disciplinary (MDT) approach in these difficult cases where good data is still lacking, yet Robertson *et al* make firm recommendations regarding the utility of adjuvant radiotherapy. We do not advocate adjuvant radiotherapy for most patients after resection of PA. Strong consideration should be given to those with recurrent disease and those in the initial setting with residual (micro/macrosopic) disease, particularly if secondary surgery is likely to be a highly morbid procedure. We believe it may be better to inform patients about the likelihood of recurrence, the common side effects of radiation and the potential sequelae of salvage surgery in future years. It is our experience that many patients opt

for radiation treatment in order to avoid the disability of major facial/neck salvage surgery, in particular facial nerve sacrifice.

It might be interesting to delineate the morbidity of salvage surgery in patients primarily irradiated versus those observed alone. It is likely that patients who were irradiated and still recur are a significant minority. Accurate data on this would further enhance the information available to patients treated by the MDT.

Financial disclosures: Nil

Conflicts of interest: Nil

References

1. Robertson BF, Robertson GA, Shoaib T, Soutar DS, Morley S, Robertson AG. Pleomorphic adenomas: post-operative radiotherapy is unnecessary following primary incomplete excision: a retrospective review. *J Plast Reconstr Aesthet Surg* 2014;67:e297-302.
2. Wittekindt C, Streubel K, Arnold G, Stennert E, Guntinas-Lichius O. Recurrent pleomorphic adenoma of the parotid gland: analysis of 108 consecutive patients. *Head Neck* 2007;29:822-828.
3. De Zinis LOR, Piccioni M, Antonelli AR, Nicolai P. Management and prognostic factors of recurrent pleomorphic adenoma of the parotid gland: personal experience and review of the literature. *Eur Arch Otorhinolaryngol* 2008; 265:447-52.
4. Renehan A, Gleave EN, McGurk M. An analysis of the treatment of 114 patients with recurrent pleomorphic adenomas of the parotid gland. *Am J Surg* 1996;172:710-714
5. Malard O, Wagner R, Joubert M et al. Prognostic factors for secondary recurrence of pleomorphic adenoma: a 20-year, retrospective study. *J Laryngol Otol* 2013; 127:902-907.