Interstitial photodynamic therapy for malignant parotid tumours

Guidance

1.1 Current evidence on the safety and efficacy of interstitial photodynamic therapy (PDT) for malignant parotid tumours is inadequate in quantity. Therefore this procedure should only be used with special arrangements for clinical governance, consent and audit or research.

1.2 Clinicians wishing to undertake interstitial PDT for malignant parotid tumours should take the following actions.

• Inform the clinical governance leads in their Trusts.
• Ensure that patients understand the uncertainty about the procedure’s safety and efficacy, and provide them with clear written information. In addition, the use of the Institute's information for patients ('Understanding NICE guidance') is recommended (available from www.nice.org.uk/IPG259publicinfo).
• Audit and review clinical outcomes of all patients having interstitial PDT for parotid malignancies (see section 3.1).

1.3 Further publication of safety and efficacy outcomes will be useful. The Institute may review the procedure upon publication of further evidence.

The procedure

2.1 Indications and current treatments

2.1.1 The parotid glands are salivary glands located in front of the ears. Rarely, primary malignant tumours can develop in the parotid glands (although benign tumours are more common). Patients with malignant parotid tumours typically first present with painless, localised swelling on one side of the face.

2.2 Outline of the procedure

PDT involves initial administration of a photosensitising agent by intravenous injection. A few days later, the procedure is performed under local or general anaesthetic. A number of needles are inserted into the parotid tumour, either percutaneously or transorally, with the use of ultrasound, computed tomography or magnetic resonance imaging guidance. The required number and length of the needles depend on the size and position of the tumour. A beam splitter is used to divide a primary laser beam of appropriate wavelength into a small number of optic fibres, which are passed through the needles to deliver laser light into the tumour. Light dosimetry calculations are made based on the dose of light required and the output of the laser. After the deepest portion of the tumour has been treated, the needles and laser fibres are pulled back in 1 cm decrements, each withdrawal being followed by further illumination. The illumination of the photosensitive agent results in the formation of high-energy, cytotoxic oxygen molecules.

2.2.2 After administration of the photosensitising agent, patients need to follow a regimen of controlled re-exposure to ambient light over a period of 2 to 3 weeks.
2.3 Efficacy

2.3.1 One report described two patients with refractory parotid tumours treated with PDT. One of these patients, a 42-year-old woman with a stage T4 adenoid cystic carcinoma of the parotid gland, had a complete response to PDT at 4 weeks and was alive and well with no evidence of recurrence at 15-month follow-up. The other patient was described as responding to treatment but no additional information was provided. A second report described a single patient with a parotid tumour, who was still alive 3 years after treatment.

2.3.2 The Specialist Advisers considered the main efficacy outcome to be local tumour control.

2.4 Safety

2.4.1 No complications attributable to PDT were described for the two patients in the report (see 2.3.1).

2.4.2 The Specialist Advisers considered theoretical adverse events to include photosensitisation that may result in burns to non-treated areas, allergic reactions to the photosensitising agent, nerve and blood vessel damage, bleeding and delayed healing.

2.5 Other comments

2.5.1 The Committee noted that PDT may be used for patients whose parotid tumours are refractory to other forms of treatment or for those with recurrent parotid tumours.

3 Further information

3.1 This guidance requires that clinicians undertaking the procedure make special arrangements for audit. NICE has identified relevant audit criteria and developed an audit tool (which is for use at local discretion), available from www.nice.org.uk/IPG259.


Information for patients

NICE has produced information on this procedure for patients and their carers (‘Understanding NICE guidance’). It explains the nature of the procedure and the decision made, and has been written with patient consent in mind. See www.nice.org.uk/IPG259publicinfo

Sources of evidence

The evidence considered by the Interventional Procedures Advisory Committee is described in the overview, available at: www.nice.org.uk/ip658overview

Ordering printed copies

Contact NICE publications (phone 0845 003 7783 or email publications@nice.org.uk) and quote reference number N1553 for this guidance or N1554 for the ‘Understanding NICE guidance’.