



Australian Government
Department of Health and Ageing



Australia and New Zealand Horizon Scanning Network

ANZHSN

AN INITIATIVE OF THE NATIONAL, STATE AND
TERRITORY GOVERNMENTS OF AUSTRALIA
AND THE GOVERNMENT OF NEW ZEALAND

National Horizon Scanning Unit

Horizon scanning prioritising summary

Volume 1, Number 2:

**Photodynamic therapy: Improving
survival and quality of life for patients
with non-resectable cholangiocarcinoma**

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PRIORITISING SUMMARY

REGISTER ID: 0000002

**NAME OF TECHNOLOGY:
PHOTODYNAMIC
THERAPY**

**PURPOSE AND TARGET GROUP:
IMPROVING SURVIVAL
AND QUALITY OF LIFE FOR PATIENTS
WITH NON-RESECTABLE
CHOLANGIOCARCINOMA**

**STAGE OF DEVELOPMENT (IN
AUSTRALIA):**

- | | |
|---|--|
| <input type="checkbox"/> Yet to emerge | <input type="checkbox"/> Established |
| <input type="checkbox"/> Experimental | <input checked="" type="checkbox"/> Established <i>but</i> changed indication or modification of technique |
| <input type="checkbox"/> Investigational | <input type="checkbox"/> Should be taken out of use |
| <input type="checkbox"/> Nearly established | |

**AUSTRALIAN THERAPEUTIC GOODS
ADMINISTRATION APPROVAL**

- | | |
|------------------------------|--|
| <input type="checkbox"/> Yes | ARTG number |
| <input type="checkbox"/> No | <input checked="" type="checkbox"/> Not applicable |

Although an ARTG number is not applicable to this technique, there would be a number of lasers registered on the TGA which would be used to perform this procedure.

INTERNATIONAL UTILISATION:

COUNTRY	LEVEL OF USE		
	Trials Underway or Completed	Limited Use	Widely Diffused

Multicentre, European	RCT		
Germany	Phase II pilot		
Germany	Phase II Clinical trial		

IMPACT SUMMARY:

Photodynamic therapy (PDT) is a palliative strategy, which aims to increase the survival time and quality of life of patients with non-resectable cholangiocarcinoma. Cholangiocarcinoma is a rare cancer of the bile duct with a poor prognosis. Patients are administered a photosensitising agent (eg sodium porfimer or Photfrin) 48 hours prior to intraluminal photoactivation. A laser fibre is introduced endoscopically into the bile duct and power is supplied at the appropriate wavelength (630nm). A photochemical reaction takes place leading to cell death.

The AIHW reported 287 cases in Australia of unspecified cancer of the biliary tract in the year 2000. Current treatment for non-resectable cholangiocarcinoma consists of endoscopic or percutaneous drainage or biliary stenting, which does not increase survival but improves the quality of life.

Preliminary data are promising. The randomised controlled trial conducted by Ortner et al (2003) reported a mean survival of 493 days in the PDT plus stenting group vs 98 days for stenting alone. PDT appears to reduce tumour growth, relieves jaundice and improves quality of life (physical and social functioning). Possible safety issues are phototoxicity after PDT. The estimated costs for PDT for cholangiocarcinoma would be small due to the small number of patients affected.

CONCLUSION:

There is limited Level II and Level IV evidence. However, given that it is an established technology in Australia, it is expected that PDT for non-resectable cholangiocarcinoma would diffuse rapidly into the Australian health system.

HEALTHPACT ACTION:

Therefore it is recommended that this technology be monitored.

SOURCES OF FURTHER INFORMATION:

AIHW Cancer data [Internet]. Available from: <http://www.aihw.gov.au/cognos/cgi-bin/ppdscgi.exe?DC=Q&E=/Cancer/cancerageratesv6>

MSAC report 1039: *Photodynamic therapy withverteporfin for macular degeneration*. [Internet]. Available from: <http://www.health.gov.au/msac/pdfs/msac1039.pdf>

MSAC report 1008: *Photodynamic therapy for skin and mucosal cancer*. [Internet]. Available from: <http://www.health.gov.au/msac/pdfs/msac1008.pdf>

Dumoulin, F. L., Gerhardt, T. et al (2003). 'Phase II study of photodynamic therapy and metal stent as palliative treatment for nonresectable hilar cholangiocarcinoma', *Gastrointest Endosc*, 57 (7), 860-867.

Ortner, M. (2001). 'Photodynamic therapy for cholangiocarcinoma', *J Hepatobiliary Pancreat Surg*, 8 (2), 137-139.

Ortner, M. A. (2000). 'Photodynamic therapy of cholangiocarcinoma cancer', *Gastrointest Endosc Clin N Am*, 10 (3), 481-486.

Wiedmann, M., Caca, K. et al (2003). 'Neoadjuvant photodynamic therapy as a new approach to treating hilar cholangiocarcinoma: a phase II pilot study', *Cancer*, 97 (11), 2783-2790.

SEARCH CRITERIA TO BE USED:

Bile Duct Neoplasms/drug therapy/metabolism/*radiography

Bile Duct Neoplasms/*drug therapy/surgery

*Bile Ducts, Intrahepatic

Cholangiocarcinoma/drug therapy/metabolism/*radiography

Cholangiocarcinoma/*drug therapy/surgery

Cholangiopancreatography, Endoscopic Retrograde/adverse effects/*methods

Lasers

Photochemotherapy/*methods

Quality of Life

Radiography, Interventional/adverse effects/*methods

Antineoplastic Agents/*therapeutic use