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A HEALTH TECHNOLOGY ASSESSMENT NEWSLETTER FOR ALBERTA

For what indications is acupuncture effective?

This report presents the evidence from systematic reviews and meta-analyses and highlights some of the issues surrounding acupuncture treatments and the conduct of research in this area. Alberta Health and Wellness and several Regional Health Authorities requested a search of the evidence to answer the question: *"For which conditions has acupuncture been found to effective?"*

Acupuncture is a relatively safe procedure, but it can have both minor (fainting, exacerbation of symptoms) and serious (hepatitis, traumatic injury of body tissue) adverse effects. Acupuncture techniques differ across cultures and practitioner groups and these variations are associated with different risks. The rate of adverse events also varies according to the condition being treated and the part of the body involved. The rate of reported, serious adverse events was low.

Twenty-three reviews were included: two on dental and temperomandibular dysfunction pain; one on headaches; one on tinnitus; three on asthma; one on stroke rehabilitation; two on antiemesis; five on neck/back pain; two on chronic pain; one on fibromyalgia; one on induction of labour; one on addictions; two on smoking cessation; and one on weight reduction. Unanimously these reviews call for better quality research with greater numbers of participants.

There are many issues in acupuncture research that require further exploration and study. Concerns range from the assessment of study methodology to appropriate acupuncture treatment regimens.

This report confirms the findings from other systematic reviews that the evidence supports the effectiveness of acupuncture in the treatment of postoperative nausea and vomiting and dental pain. There was no indication as to the specific type and method of acupuncture that would be most appropriate for the treatment of dental pain. For the treatment of postoperative nausea and vomiting, acupuncture was shown to be effective in adults, except when administered under anaesthesia.

Based on the limited evidence, it would appear premature for regional health authorities to implement an acupuncture program, other than for postoperative nausea and vomiting for selected indications and patients. For all other conditions the effect of acupuncture is unclear and its clinical value is questionable. Due to the lack of detail in the reviews regarding the service providers involved, it was not possible to associate treatment effect, or lack of effect, with the expertise or training of the service provider.

WELCOME NEW STAFF

In May 2002 we welcomed Ann Scott to AHFMR as a Research Associate. Ann has a BSc (Hons) in zoology and biochemistry, a PhD in zoology from the University of New South Wales, and a Graduate Diploma in Business Management from the University of South Australia. As a researcher, Ann brings a unique Australian perspective as well as extensive experience in the assessment of surgical procedures gained from three years as Senior Research Officer with the Australian Safety and Efficacy Register of New Interventional Procedures – Surgical.

TECHNOTES

Coronary brachytherapy for in-stent restenosis

In-stent restenosis remains a major problem in coronary interventional surgery, requiring patients to undergo repeated procedures and surgery. Intracoronary brachytherapy, a procedure delivering radiation at a very short distance to inhibit the proliferation of smooth muscle cells, is an adjunct to the conventional treatments for in-stent restenosis.

Evidence from six randomised, placebo-controlled trials (RCTs) suggests that intracoronary gamma and beta radiotherapy, as adjunct therapy is feasible, efficacious, and safe. All RCTs demonstrate a significant reduction in restenosis rate at 6- to 9-month follow-up and in major adverse clinical events after radiotherapy at 6- to 12-month follow-up. A trial with 3-year follow-up indicates that the early clinical benefits observed after gamma radiotherapy appeared sustainable.

Late thrombosis is an important complication of intracoronary brachytherapy, which has the potential to result in myocardial infarction. No aneurysms, pseudoanerysms, or perforation occurred in any trial. Long-term complications of intracoronary therapy are unknown at this time.

Both Health Canada and FDA have granted approval for some devices for treatment of in-stent restenosis in native coronary arteries by radiotherapy.

Hip resurfacing for degenerative hip disease

Many adults suffering from severe degenerative hip disease present with intense chronic pain and stiffness. Conventional total hip replacement (THR), which involves surgical removal of the damaged cartilage and bone of the joint and replacing them with artificial implants (prostheses), has been the therapy of choice. However, there are problems associated with the use of THR in young, active adults and hip resurfacing has been introduced as a bone-conserving alternative.

For metal-on-metal hip resurfacing, the femoral neck is preserved rather than amputated as is done in conventional THR. The femoral head is reshaped and resurfaced with a prosthetic shell. As a result, the femoral bone is loaded more like a normal hip and the bone is preserved.

The surveyed evidence suggests that this procedure may be a viable and bone-conserving option for adults with degenerative hip disease who would otherwise receive and are likely to outlive conventional THR. Its use may be particularly beneficial in younger (£ 65 years) and/or more active adults who face the possibility of multiple revision procedures during their lifetime. In these patients, it appears as promising interim procedure, which aims to buy time before primary THR and potentially prevent or reduce the need for revision surgery. Patient selection is important, as good bone stock is required.

Although the metal-on-metal hip resurfacing is not a new concept, there are still deficiencies in the evidence of its long-term clinical performance (> 10 years). The available published results (based on poor level of evidence) suggest that it compares favorably with conventional THR in terms of reduced revision rates and post-surgery complication rates in younger, more active adults with degenerative hip disease in the short- to medium-term (<10 years).

The metal-on-metal hip resurfacing is being used with increasing frequency in Europe, Australia, and the United States. The procedure is not licensed in Canada.

Surgical treatment for chronic venous insufficiency

Chronic venous insufficiency (CVI) is a common, debilitating, recurrent and advanced stage of venous disease caused by venous valvular incompetence with or without associated venous outflow obstruction which may affect the superficial venous system, the deep

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JOINT PROJECTS

Practical aspects of telemedicine assessment

Several collaborative projects with the Alberta Mental Health Board (AMHB) to assess telepsychiatry services in the province have been previously published. Earlier this year a report was published that considered the evolution of the AMHB's Telemental Health Service (TMH) and the role that a guideline developed at AHFMR had played in its assessment.

Most attributes referred to in the guideline for assessment of telehealth applications were well covered in evaluations of TMH, though there were limitations in regard to assessment of health outcomes and cost effectiveness.

From the perspective of the AMHB, the assessment guideline was helpful, though more so in the earlier stages of the TMH than for appraisal of a mature network. It was not possible to obtain all the measures of performance suggested by the guideline, which did not fully reflect local operational conditions.

Assessment of the TMH by the AMHB continues and is helpful in local decision making. Constraints on assessment are the complexity of the current TMH network, limited resources for evaluation and routine administrative requirements of decision – makers.

Update on assessment of telemedicine applications

Another report on telemedicine, published jointly with the Finnish Office for Health Care Technology Assessment, updated a systematic review included in an earlier publication prepared on behalf of the International Network of Agencies for Health Technology Assessment.

From searches of the electronic data bases between November 1998 and December 2000, 38 scientifically credible studies were identified that included comparison between telemedicine and a non-telemedicine alternative and reported administrative, clinical or economic outcomes.

Only nine of the studies were considered to be of good quality. Nineteen studies concluded that telemedicine had advantages over the alternative approach, 16 also drew attention to negative aspects or were unclear whether telemedicine had advantages and three found that the alternative approach had advantages over telemedicine.

For several applications, savings and sometimes clinical benefit were obtained through avoidance of travel and associated delays. The home care studies showed convincing evidence of benefit, while those on teledermatology indicated that there were cost disadvantages to health care providers, though not to patients. Twenty-three of the studies appeared to have potential to influence future decisions on the telemedicine application under consideration.

The report concluded that useful data are emerging on some telemedicine applications, but good quality studies are still scarce and generalisability of most assessment findings may be limited.

INFORMATION RESOURCES

The National Library of Medicine recently published an Etext on Health Technology Assessment (HTA) Information Resources. David Hailey is the author of the chapter titled Literature searching and HTA: the perspective of the researcher. If you wish to read the publication it can accessed free of charge at: *http://www.nlm.nih.gov/nichsr/ehta/ehta.html.*

INFORMATION PAPERS

Update of evidence on stereotactic radiosurgery

In response to a request from Alberta Health and Wellness, this update was prepared to an earlier assessment on stereotactic radiosurgery (SRS).

Quality of the available data on SRS effectiveness in comparison with other types of treatment is limited.

Choices regarding technology for SRS have been widened by recent developmemtns. A version of SRS, using robotic technology (the Cyberknife), that enables treatment in any part of the body is now commercially available. There is still no evidence that any one form of SRS is superior over another. There is increasing use of fractionated stereotactic radiotherapy (FSRT) as an alternative or supplement to SRS. There is some indication that FSRT may have advantages over SRS in terms of incidence of complications in some situations.

The Gamma Knife (GK) version of SRS is more expensive than that using standard LINAC approaches or FSRT. Costs of using recent developments in LINAC technology are not yet clear. The need remains to go beyond cost analysis to economic evaluation, taking appropriate account of local circumstances.

Many publications confirm the advice provided in the earlier assessment that excellent quality assurance and placement of SRS in specialized centres are essential.

Conclusions on the place of SRS in the applications considered in the assessment were as follows:

- ***Acoustic neuroma*:** SRS has a useful place where microsurgery would have an unacceptable risk or be refused. Long term follow up data on SRS treatment are still comparatively limited. FSRT appears to have potential as an alternative to LINAC or GK SRS.
- ***Arteriovenous malformations (AVM):*** Microsurgery and SRS should be regarded as complementary approaches. Surgery is preferred if the lesion can be safely excised. Further information is emerging on longer term complications of SRS.
- ***Brain metastases*:** SRS has a place in the management of appropriately selected patients, is a useful option when the patient is not a candidate for surgery and may offer advantages through relief of neurological symptoms. SRS plus radiotherapy appears more effective than radiotherapy alone.
- ***Brain tumours*:** SRS appears to be a useful adjunctive treatment in appropriately selected patients, though with relatively limited success with malignant glioma. It is helpful where surgery is not possible or carries unacceptably high risks.
- The efficacy of SRS appears not to have been established in the management of ***Parkinson's Disease***, ***trigeminal neuralgia*** or ***epilepsy*** other than in association with its use in treatment for AVM or brain tumours.

The report suggests that any referral of patients from Alberta for SRS treatment outside the province should be to centres of excellence with experience in the management of the condition in question, and take account of the availability of other, appropriate, treatment options for many cases.

CCOHTA Outreach Workshop in Edmonton

Health Technology Assessment in Alberta was sponsored by the Canadian Coordinating Office for Health Technology Assessment (CCOHTA) in association with AHFMR and Alberta Health and Wellness. The goal was to increase awareness of HTA and the resources available to decision makers. There were 117 registered participants. Powerpoint presentations are available from *www.ccohta.ca*.

ISTAHC 2002 CONFERENCE

The following nine presentations were given at the 18th meeting of International Society for Technology Assessment in Health Care (ISTAHC):

- An oral presentation, *Implementing strategies for Effective Management of Politically Sensitive Assessments*, was intended to share lessons learned and strategies used while conducting research on highly sensitive and emotionally charged issues.
- The oral presentation, *Rapid Assessments: do they provide reliable information*, offered a quick process for assessing the quality of the information provided by TechNotes in terms of their reliability.
- An oral presentation, *"Effective strategies for networking health technology assessment and Alberta's health regions"* recounted the opportunities and challenges of developing such a network.
- The oral presentation, *"A collaborative approach to formation of a regional health technology assessment and implementation unit in Canada"*, provided an overview of a unique administrative structure in Alberta and the process by which it was implemented.
- An oral presentation was provided on the HTA program's first impact analysis of its products and the factors that influence impact.
- An invited panel presentation on *"International collaboration: 'Best Practice' in undertaking HTA/Joint Assessments"* focused on telemedicine.
- A panel presentation considered the experience with rapid assessment reports and the challenges faced by researchers and decision makers.
- An oral presentation was made on the approach used to develop the checklist for assessment reports published by the International Network of Agencies for Health Technology Assessment. The checklist is an aid to improving transparency and consistency in HTA reports.
- A poster prepared jointly with CCOHTA described the collaboration by the two agencies on assessment of immunoadsorption therapy, a method for treatment of rheumatoid arthritis.

All of these presentations in abstract format, as well as overheads and copies of posters, are available on request.

Documents mentioned in this newsletter:

Patricia Leggett Tait, Laurie Brooks, Christa Harstall, **Acupuncture: evidence from systematic reviews and meta-analyses**, May 2002

David Hailey, **Stereotactic radiosurgery: an update**, May 2002

David Hailey, Tim Bulger, Sharlene Stayberg, Douglas Urness, **Application of an assessment framework to an evolving telemental health program**, February 2002

David Hailey, Risto Roine, Arto Ohinmaa, **Assessments of telemedicine applications – an update**, September 2001

Bing Guo, **Intracoronary brachytherapy for the treatment of in-stent restenosis**, May 2002

Paula Corabian, **Metal-on-metal hip resurfacing for young, active adults with degenerative hip disease**, March 2002

Maria Ospina, **Surgical treatment for chronic venous insufficiency**, March 2002

Maria Ospina, **Cryosurgery for prostate cancer**, May 2002

All documents in this newsletter are available free of charge. Contact the Health Technology Assessment (HTA) Unit, AHFMR, by phone (780) 423-5727, fax (780) 429-3509, or by e-mail: **postmaster@ahfmr.ab.ca**

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