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Three Cochrane Reviews to be published this week in The Cochrane Library 2007, Issue 2, report on breast cancer:

- **Preoperative chemotherapy is a safe option for women with early stage operable breast cancer**

Chemotherapy is frequently given to women with breast cancer after surgery to remove the main bulk of the tumour. A new Cochrane Systematic Review of existing data shows, however, that using chemotherapy to reduce the size of tumours before surgery does not compromise survival rates and enables women to retain better self-image and overall health because of the reduced impact of the surgery.

- **Understanding personal genetic risk for familial breast cancer eases anxieties**

Services that help women understand the way that their inherited genetic make-up influences their risk of getting breast cancer ease distress and decrease their levels of cancer worry. There is, however, insufficient evidence to make recommendations about the best way of delivering these services.

- **Traditional Chinese medicinal herbs may help women with breast cancer**

Using Chinese herbs either alone or in conjunction with chemotherapy may help protect a breast cancer patient's bone marrow and immune system, as well as improving the woman's overall quality of life.

Preoperative chemotherapy is a safe option for women with early stage operable breast cancer

Chemotherapy is frequently given to women with breast cancer after surgery to remove the main bulk of the tumour. A new Cochrane Systematic Review of existing data shows, however, that using chemotherapy to reduce the size of tumours before surgery does not compromise survival rates and enables women to retain better self-image and overall health because of the reduced impact of the surgery.

Cancer therapy depends on killing or removing cancerous cells as quickly as possible. Surgery involves either the removal of all breast tissue (mastectomy) or removal of just the tumour and immediate tissue (lumpectomy). Relative to mastectomy, lumpectomy reduces the scale of the surgery required, and improves self-image. Lumpectomy also has equal overall survival to mastectomy, however, this surgical option also results in a greater chance of the cancer reoccurring.

The longer the cancer cells are in the body, the more chance that a secondary cancer will develop. A logical approach, therefore, is to surgically remove as much of the tumour as possible as quickly as possible, and then use chemotherapy to kill any remaining cancer cells. Although this management has improved survival for women significantly over the last twenty years, this approach also requires extensive surgery which can lead to added physical and psychological difficulties for many women.

A team of Cochrane Researchers therefore set out to assess the safety of giving chemotherapy before surgery. This approach reduces the amount of tissue that has to be removed, but carries the risk that tumour cells that are not killed by the chemotherapy may spread before the tumour can be surgically removed. The review identified 14 randomised controlled trials involving a total of 5,500 women.

Compared to postoperative chemotherapy, preoperative chemotherapy reduced the number of mastectomies performed thereby enabling women to undergo less extensive surgery. Women receiving treatment before surgery were also less likely to suffer from serious infections. There were, however, no differences between the two methods in the length of time that women were disease-free after treatment.

“Our review showed a decreased number of adverse effects associated with preoperative chemotherapy,” says lead researcher Mr Sven Mieog, who works at Leiden University Medical Center, in the Netherlands.

“It is important, however, to discuss with the patient the balance of breast conservative surgery between better quality of life and the slight increase in risk of local re-growth of the tumour, with the consequent need for further treatment,” he adds.

Mieog JSD, van der Hage JA, van de Velde CJH. Preoperative chemotherapy for women with operable breast cancer. *Cochrane Database of Systematic Reviews* 2007, Issue 2. Art. No.: CD005002. DOI: 10.1002/14651858.CD005002.pub2.

Understanding personal genetic risk for familial breast cancer eases anxieties

Services that help women understand the way that their inherited genetic make-up influences their risk of getting breast cancer ease distress and decrease their levels of cancer worry. There is, however, insufficient evidence to make recommendations about the best way of delivering these services.

These findings came from a Cochrane Systematic Review of data contained in five papers that reported trials in which a total of 1251 women were given a risk assessment that helped them understand their individual risk of getting cancer.

Current research is revealing much about the way that a person's genes influence their risk of breast cancer. Consequently, this is increasing the demand for information, reassurance, screening and genetic testing. The challenge is to ensure that this information is handled in ways that patients can understand, and that enables them to make informed choices.

"As the demand for cancer genetics services is likely to increase, there will be a pressing need for finding the best ways of delivering these services," says Dr Rachel Iredale, one of the researchers on the project, who works at the Institute of Medical Genetics in Cardiff.

"The challenge is to develop cancer genetic services that adequately reassure inappropriately worried individuals while at the same time identifying those at moderate or high risk who require further information, management and support," says co-researcher Stephanie Sivell.

A risk assessment takes time. Typically, the first step is to draw up a family tree marking on any relatives who had, or still have, breast cancer and the ages at which they were diagnosed. Women may then be placed in a low, medium or high risk group. From here, cancer genetic services can move on to provide information and support to patients and their families, offer genetic counselling and may undertake genetic testing for women who are at increased risk of familial breast cancer.

"All of these services need to be carried out with care as genetic information touches on sensitive issues, such as reproductive decision-making, employment and insurance," says Iredale.

Sivell S, Iredale R, Gray J, Coles B. Cancer genetic risk assessment for individuals at risk of familial breast cancer. *Cochrane Database of Systematic Reviews* 2007, Issue 2. Art. No.: CD003721. DOI: 10.1002/14651858.CD003721.pub2.

Traditional Chinese medicinal herbs may help women with breast cancer

Using Chinese herbs either alone or in conjunction with chemotherapy may help protect a breast cancer patient's bone marrow and immune system, as well as improving the woman's overall quality of life.

Sixty per cent of women undergoing chemotherapy for breast cancer experience a range of significant short term side effects. These include nausea, vomiting and fatigue, as well as inflammation of the gut lining, decreased numbers of red and white blood cells and decreased numbers of blood platelets.

Chinese medicinal herbs include mixtures of herbal compounds or extracts from herbs, and they are prescribed to counteract the side effects of chemotherapy. This Cochrane Systematic Review set out to see if there is conventional evidence indicating that these medicines are safe and whether there is evidence that the medicines are effective.

The researchers identified seven randomised studies involving 542 patients with breast cancer. By analysing these data, the researchers concluded that there was no

evidence that the Chinese medicinal herbal treatment caused harm, and some evidence that it might reduce side effects.

“Further trials are needed before the effects of traditional Chinese medicines for people with breast cancer can be evaluated with any real confidence,” says Assistant Professor Jing Li, who works at the Chinese Cochrane Centre in Chengdu, China.

Zhang M, Liu X, Li J, He L, Tripathy D. Chinese medicinal herbs to treat the side-effects of chemotherapy in breast cancer patients. *Cochrane Database of Systematic Reviews* 2007, Issue 2. Art. No.: CD004921. DOI: 10.1002/14651858.CD004921.pub2.

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Notes for editors

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^a Jadad AR, Cook DJ, Jones A, Klassen TP, Tugwell P, Moher M, et al. Methodology and reports of systematic Reviews and meta-analyses: a comparison of Cochrane Reviews with articles published in paper-based journal.