

Chlamydia infection linked to cervical carcinoma

The presence of serum antibodies against heat shock protein (HSP) 60-1, a *Chlamydia trachomatis* antigen, is associated with cervical squamous-cell carcinoma (*Am J Obstet Gynecol* 2003; 189: 1287–92).

“We found that chlamydial HSP60 response which predicts long-term complications such as pelvic inflammatory disease, adverse pregnancy outcome, and tubal factor subfertility is also associated with the development of cervical carcinoma”, says Jorma Paavonen (University of Helsinki, Finland). Therefore, Paavonen explains that chlamydia screening is of paramount importance, not only for sexual and reproductive health, but also

for the prevention of persistent human papillomavirus (HPV) infection and cancer.

The association between certain strains of HPV and cervical cancer is well established. Although HPV is essential for the transformation of cervical epithelial cells, several cofactors and molecular events can influence whether cervical cancer will develop.

The team measured serum concentrations of immunoglobulin G (IgG) to HSP60-1, 60-2, and 60-3 in 178 women with invasive cervical carcinoma and 513 matched controls. They found that only antibodies to chlamydial HSP60-1 were associated with cervical squamous-cell carcinoma

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Chlamydia trachomatis: guilt by association.

in cases where more than 3-5 years had elapsed from serum sampling to cancer diagnosis.

According to Walter Stamm (University of Washington, Seattle, USA) this study is consistent with the hypothesis that *C trachomatis* cervical infection may be a cofactor contributing to cervical carcinogenesis.

However, he suggests further studies are needed to determine how persisting chlamydia might influence acquisition, progression, or persistence of HPV infection. Stamm speculates these could include, for example, induction of inflammation, inhibition of apoptosis, or alteration of oncogene function. Jonathan Zenilman (Johns Hopkins Bayview Medical Center, Baltimore, MD, USA) considers the findings “moderately important” because the association of chlamydia with cervical cancer has been made before. However, he says, the study is yet more support for increased chlamydia intervention programmes.

Richard Morrison (Montana State University, Bozeman, USA) cautions that while the authors show the presence of HSP60 and cervical cancer, serological associations, per se, can be wrong. One limitation of the study, he says, is that the authors did not assess antibody reactivity to nonchlamydial HSP60s, such as *E coli* HSP60, or even human HSP60. Chlamydial HSP60-1, according to Morrison, shares more than 50% aminoacid sequence identity with both *E coli* (and many other microbes) and human HSP60, and cross-reactive antibody responses do occur. Nevertheless, this study provides impetus for further debate and discussion on the association between *C trachomatis* and cervical cancer.

Khabir Ahmad

Ultrasound treatment for renal cancer

High intensity focused ultrasound (HIFU) has shown its potential for treating advanced renal cancer. Feng Wu and colleagues, Chongqing Medical University, China, have successfully treated a group of 13 patients with HIFU, which decreased or completely abolished tumour vasculature in 10 patients, and reduced tumour volume in seven patients. After a median follow-up of 14.1 months, six patients had died, six remained alive, and one was unaccounted for. HIFU was generally well tolerated, with few complications. Wu believes that this study shows the efficacy, safety, and feasibility of HIFU therapy for the destruction of malignant solid tumours.

“If an ultrasound beam carries sufficient energy and is focussed at a distance from the radiating surface, the energy within the focal region can heat tissue through coagulation necrosis without damaging surrounding vital structures”, explains Wu. He continues: “The ability to cause cell death in tissue distant from the ultrasound source makes HIFU an attractive option for development as a non-invasive surgical tool, especially in the field of cancer therapy”.

Although more than 3000 patients have undergone HIFU treatment in

China since 1997, the technique is still being developed and more clinical trials are necessary to fully establish HIFU as an effective cancer treatment. Wu has begun a collaboration with a hospital in Oxford, UK, and another in Yokohama, Japan, and is hopeful that other European centres will use HIFU in the near future. Wu admits that HIFU is expensive, but believes ongoing studies will make the devices smaller and cheaper.

Gail ter Haar, Royal Marsden Hospital, Surrey, UK, is impressed by the work—her own team has been involved in clinical trials of HIFU for liver metastases for some time. “HIFU is the most attractive of the available thermal ablation therapies because it is non-invasive. There is no necessity to introduce any probes into the body and tissue volumes at depth can be targeted with no damage to intervening tissues”, says ter Harr.

While ter Harr stresses that the technique is still in its infancy, she believes there is good evidence that HIFU may be useful in the treatment of liver, kidney, or prostate tumours: “I am sure that there will be a significant place for HIFU in cancer treatment, but exactly what that role will be, is too early to say”.

Cathel Kerr