

GLOSSARY**LOSS OF****HETEROZYGOSITY (LOH)**

A 1.3× difference in relative intensity between an allele in genetic material from two different sources (e.g. prostatic cells and blood leukocytes)

such as physical inactivity and obesity. The risk of distal colon cancer was 50% higher in participants who reported a high intake of processed meat in 1982 and 1992–1993 than in those with a low intake. A similar increase in risk was seen in those with a high ratio of red meat to poultry and fish. The risk of rectal cancer was elevated in those with a high consumption of red meat reported at both time points or in 1992–1993 only.

Chao *et al.* conclude that long-term meat intake is an important component of cancer risk, and that red and processed meat appear to be associated with tumors in the distal colon and rectum.

Original article Chao A *et al.* (2005) Meat consumption and risk of colorectal cancer. *JAMA* 293: 172–182

Unstable DNA in cells obtained by prostatic massage associated with cancer

The standard diagnostic indicators of early prostate cancer—serum prostate-specific antigen (PSA) levels and ratios, and digital rectal examinations—are unreliable. In the search for better indicators of low-grade disease, cells manually liberated from the prostate have been examined for various markers. Unfortunately, the sensitivity of markers such as telomerase and ornithine decarboxylase is too low to be clinically useful. Now, a French group has shown that the presence of genetic lesions in prostate cells obtained by prostatic massage is correlated with positive biopsies.

Ninety-nine men with a serum PSA level between 4 and 10 ng/ml and/or abnormalities detected during digital rectal examination underwent prostatic massage. Prostatic cells sufficient for extraction of DNA were collected from the post-massage voided urine in 81 cases. Blood leukocyte DNA was also collected. DNA from these two cell types was comparatively examined for LOSS OF HETEROZYGOSITY (LOH) at six 'hotspot' loci.

At least one allelic deletion was detected in the prostatic DNA of 57 patients; 33 of these had biopsy-confirmed prostate cancer. Of the 25 men in whom no LOH was detected, 5 had prostate cancer. The sensitivity of LOH for detection of prostate cancer (87%), but not the specificity (44%), exceeded that of

a free:total PSA ratio <15% (55% and 74%, respectively).

The validity of the LOH test using cells obtained via prostatic massage was confirmed by comparison with LOH of corresponding cells of tumors surgically excised from 19 men. Identical patterns of LOH were evident in 71% of samples, and similar patterns in 86%. The authors suggest that determination of LOH following prostatic massage is a useful, minimally invasive method of identifying candidates for prostate biopsy.

Original article Thuret R *et al.* (2005) Clinical relevance of genetic instability in prostatic cells obtained by prostatic massage in early prostate cancer. *Br J Cancer* 92: 236–240

Is fine-needle aspiration safe in patients with small HCC?

A recent study by Wang *et al.* has investigated the use of fine-needle aspiration in the diagnosis of small hepatocellular carcinoma (HCC). Although the procedure is considered to be accurate and cost-effective, the risks of dissemination of cancer cells and arteriportal shunt have not been quantified.

Wang *et al.* carried out a retrospective review of 90 patients with small HCC. All patients had undergone ultrasound-guided fine-needle aspiration for their definitive diagnosis, and were assessed by angiography no more than 50 days later.

Arteriportal shunt occurred in one patient (1.1%). Because angiography was not performed before aspiration, it was not possible to determine whether this was caused by the aspiration procedure itself or by tumor invasion. The authors acknowledge that the incidence of iatrogenic arteriportal shunt might have been underestimated, as small shunts may have sealed during the interval between aspiration and angiography. No new nodules were located in the needle tract, however, indicating that the development of new nodules was not related to the aspiration procedure.

Wang *et al.* conclude that ultrasound-guided, fine-needle aspiration can be safely used in the diagnosis of small HCC.

Original article Wang C-W *et al.* (2005) Safety of fine-needle aspiration in patients with small hepatocellular carcinoma. *Hepato Res* 31: 31–35