

Researchers from the University of California (CA, USA) have reported that breast computed tomography (CT) technology for early breast cancer detection may be better at detecting breast lesions and more comfortable for women than mammography.

Breast computed tomography may be better at detecting breast lesions than mammography and is more comfortable for women

Karen Lindfors of the University of California Davis School of Medicine and Medical Center (CA, USA) presented preliminary results from an ongoing Phase II trial of a breast computed tomography (CT) prototype developed at the University at a recent radiological society meeting. The results from the first 21 patients reported that breast CT images were better and more comfortable than standard mammography.

‘...breast CT images were subjectively found to be equivalent to and potentially better than standard mammography for the detection and evaluation of breast cancer.’

Lindfors commented that “In this initial evaluation, breast CT images were subjectively found to be equivalent to and potentially better than standard mammography for the detection and evaluation of breast cancer.”

The Phase II trial, which will evaluate a total of 190 patients, has been designed to

determine whether breast CT is as effective as standard mammography at detecting breast lesions. All patients enrolled in the trial had received mammograms that were suspicious for cancer and warranted a needle biopsy.

Lindfors reported that lesions seen on the mammography were also observed using CT in 19 of the initial 21 cases and that the two lesions not observed on CT were benign – one in a large breast and the other, a low-density lesion. It was also noted that modifications to breast CT technology may improve its ability to scan large breasts and also to detect lower-density lesions in the future.

Lindfors noted that “initial impressions were favorable with respect to breast CT.” However, she continued, “it is apparent that refinements in patient positioning and improvements in viewing techniques and radiologist training will be required to optimally generate and interpret the breast CT image data.”

Patients enrolled in the trial were also asked to compare the comfort of breast

CT with mammography using a scoring system from 1 to 10 (1 indicates breast CT is much worse than mammography and 10 that breast CT is much more comfortable). The initial 21 patients examined and evaluated the comfort of breast CT with an average score of 8.

‘...it is apparent that refinements in patient positioning and improvements in viewing techniques and radiologist training will be required to optimally generate and interpret the breast CT image data.’

The increased comfort experienced is likely due to the fact that breast CT requires no breast compression, unlike mammography in which the breast is squeezed between two plates. Rather, the breast is exposed by lying face down on a padded table with an opening for the breast. The CT machine is placed under the table and rotates around each breast, scanning at a rate of approximately 17 sec/breast.

Drug-releasing stents help to keep heart bypass vein grafts open

Results of a study carried out at the Cardiovascular Intervention Center of Cedars-Sinai Medical Center (CA, USA), have confirmed that newer-generation stents that release medication over a period of time are more effective at preventing restenosis than conventional, bare-metal stents, which are prone to the formation of scar tissue and eventual re-narrowing of the vein or artery.

The research, carried out by Raj Makkar and colleagues, reported a “fourfold reduction in the incidence of restenosis with the medicated stents,” in the November 2005 issue of *Catheterization and Cardiovascular Interventions: Journal of the Society for Cardiovascular Angiography and Interventions*.

Michael Lee, first author of the paper, commented that older stents “are more likely to build up atherosclerotic plaque over long sections and to be filled with cholesterol debris and blood clots. The lesions are less stable, so little particles of plaque can dislodge during the procedure.”

Further follow-up studies are due to take place to determine whether similar results will be observed over a longer time period; however, preliminary follow-up studies are positive.

Priority Paper Alerts

The effect of nebulized budesonide treatment in children with mild-to-moderate exacerbations of asthma.

Sekerel BE, Sackesen C, Tuncer A, Adalioğlu G. *Acta Paediatr.* 94(10), 1372–1377 (2005). Randomized, double-blind, placebo-controlled, parallel-group clinical trial examining the effect of a 5-day course of the inhaled corticosteroid, nebulized budesonide, in the treatment of children with a mild-to-moderate exacerbation of asthma. Results demonstrated that nebulized budesonide caused a trend towards benefit in terms of the need for systemic corticosteroid intervention, which was the primary outcome measured; however, this benefit was small.

Fluoxetine treatment in poststroke depression, emotional incontinence and anger proneness: a double-blind, placebo-controlled study.

Choi-Kwon S, Han SW, Kwon SU, Kang DW, Choi JM, Kim JS. *Stroke* 2005 Nov 23 [Epub ahead of print].

Reports on the safety and efficacy of fluoxetine in the treatment of poststroke emotional disturbances by examining 152 stroke patients with poststroke depression (PSD), emotional incontinence (PSEI) or anger proneness (PSAP). Primary outcome measures were composed of the cores of emotional disturbances at each month of follow-up. Findings showed that fluoxetine was generally safe and improved PSEI and PSAP (but caused no improvement in PSD). Hence, the authors conclude that fluoxetine is efficacious in the treatment of PSEI and PSAP; however, its effect on PSD was not solidly confirmed by this study.

Trastuzumab plus adjuvant chemotherapy for operable *HER2*-positive breast cancer

Romond EH, Perez EA, Bryant J et al. *N. Engl. J. Med.* 353(16), 1673–1684 (2005).

Combined results of the National Surgical Adjuvant Breast and Bowel Project (NSABBP) trial B-31 and the North Central Cancer Treatment Group (NCCTG) trial N9831, compared adjuvant chemotherapy with doxorubicin and cyclophosphamide followed by paclitaxel weekly or 3-weekly, alone or with concurrent trastuzumab treatment, in women with surgically treated *HER2*-positive breast cancer. The group who received trastuzumab (52 weeks, initiated concurrently with paclitaxel) had a significantly reduced risk of recurrence or death and a 12% increase in disease-free survival at 3 years.

Optimesh[®] reduces pain caused by vertebral fractures in 90% of patients

Study findings, presented at the 91st Annual Meeting of Radiological Society of North America (RSNA) have revealed that optimesh, a flexible mesh system used for the treatment of vertebral fracture repairs, significantly reduces pain in 90% of patients.

The study, which was carried out by Luigi Solbiati of the Department of Radiology, Busto Arsizio General Hospital (Busto Arsizio, Italy), examined 20 consecutive patients with fractures of the thoracic and/or lumbar vertebrae caused as a result of trauma, who were treated with the optimesh system. The procedure was carried out 26 times in a group of nine men and 11 women with an average age of 40 years. The minimally invasive treatment had a low rate of operative morbidity and appeared to correct for vertebral height loss with fast pain relief. In addition, patients who had not received pain relief from conservative therapy were able to

return to work within 10 days of the optimesh procedure.

Dr Solbiati, Chairman of the Department and spokesperson for the trial, commented that “the treatment of traumatic fractures of thoracolumbar vertebrae with the optimesh system is safe and efficient.” He continued, “the osteoconductive and osteoinductive activity of this system provides structural stability by withstanding physiologic loading and allowing for incorporation of the bone graft into native vertebral bone.”

The study found that 18 of the 20 patients were pain free 24 h after treatment, and 17 were pain-free after 6 months. A significant increase in the anterior and central height in 25 of the 26 vertebral bodies was also observed. Solbiati noted that “patients were able to return to work or their previous normal activity level within 7 to 10 days after the procedure.”

Longer survival rates observed in women with lung cancer compared with men with the disease

According to a study analyzing data from 18,967 cases of early-stage lung cancer in both the male and female population, it would appear that women have a survival advantage for the disease.

The information was taken from the Surveillance, Epidemiology and End Results (SEER) registry and showed that women had significantly better survival regardless of treatment type. Lead author Juan P Wisniewsky commented that the study

findings “should affect the design and analysis of clinical trials...which may benefit from stratification by sex, and may be incorporated into prognostic classifications.”

The investigators grouped the cases into four different treatment types: radiation, surgery, chemotherapy or no treatment. Women fared better in all four groups, with an average 5-year survival rate of 53% compared with 40% in men.

Risk of death in elderly patients with dementia found for older antipsychotic medications

A study carried out by researchers at Brigham and Women's Hospital, (MA, USA) has revealed that the administration of older antipsychotic medications in elderly people with dementia poses a risk of death almost 37% times that of the newer, atypical antipsychotic drugs.

The results of the study, published recently in the *New England Journal of Medicine*, come following a recommendation from the US Food and Drug Administration (FDA) that newer, atypical antipsychotic medications, such as Risperdal

Following a warning from the US FDA in April of this year that atypical antipsychotics almost double the risk of death in elderly patients with dementia, a study has revealed that older antipsychotics, such as haldol and thorazine, pose a risk of death almost 37% higher.

and Zyprexa, should carry a warning, as they can almost double the risk of death in elderly patients with dementia.

Although antipsychotic drugs are prescribed for almost one in four elderly nursing home patients in the USA, there is a significant lack of data on the effects and mode of action of these drugs in the elderly population. Chief author of the study, Philip Wang, noted "these results suggest that clinicians should not simply take the atypical agents they stopped prescribing in response to the FDA warning and replace them with the older drugs." He continued, "this is not an inconsequential risk. The elevation in the death rate we're seeing is over a very short period

of time."

Psychiatrist John Davis, of the University of Illinois (IL, USA) commented on the publication that "this paper is important because it corrects the mistaken perception I think many physicians may have that the older generation of drugs is safer when it comes to the mortality risk."

The study examined medical records of 22,890 elderly patients taking antipsychotic medication covered under a state insurance program in Pennsylvania (PA, USA) between 1994 and 2003.

Extraepineural injection of a selective nerve block is effective in improving pain reduction in patients with sciatica

A research team led by Joon Woo Lee, Interventional Radiologist at Seoul National University Hospital (Seoul, Korea) have reported that patients receiving extraepineural injections of a selective nerve block experience significantly less sciatic pain than those treated with intraepineural injections. Lee commented that "the therapeutic selective nerve root block is an effective tool for the treatment of pain in patients with sciatica... [however]... we found that patients who received extraepineural injections had significantly less pain than those patients who received intraepineural injections."

The study enrolled 248 patients to receive injections of a selective nerve block in and around the location of a sciatic nerve over an 11-month period and the

results, which were presented recently at the 91st Annual Meeting of Radiological Society of North America (RSNA), reported that 43 patients experienced reduced pain within 2 weeks of the injections.

'...we found that patients who received extraepineural injections had significantly less pain than those patients who received intraepineural injections'

In addition, of the 27 remaining patients who received extraepineural injections, 88.9% reported relief from sciatic pain compared with only 65.5% of the 29 patients who received intraepineural injections.

Lee went on to speculate that the extraepineural injection could have dampened inflammatory cytokines that surround the nerve which are the actual cause of the sciatic pain. This was echoed by the section moderator, Louis Gilula of the University of Washington (MO, USA) who commented that "we share the belief that it is these cytokines that are responsible for the inflammation that is related to the pain. By blocking these chemicals patients get relief of pain."

The only variable among the patients that showed a significant difference was for pain relief between the groups, which was at the $p = 0.04$ level.

The 91st RSNA meeting took place between the 27th November and the 2nd of December 2005 in Chicago (IL, USA).