International Continence Society August 22-26, 1999 29th Annual Meeting Denver, Colorado USA

Category No. 5 3 | Video Demonstration XX | Ref. No. 136

Abstract Reproduction Form B-1

Author(s): D.Koelle, A.Stoeger, R.Eder, T.Frede, R.Knapp, D.zur Nedden

Double Spacing

Institution City Country: Dept.of Gynecology and Radiology II, University Hospital, Innsbruck, Austria

Double Spacing

Title (type in CAPITAL LETTERS): **IMAGING OF THE PELVIC FLOOR USING ELECTRON BEAM COMPUTERIZED TOMOGRAPHY**

Aims of Study

Electron beam(ultrafast) computerized tomography (EBCT) is to date one of the fastest modalities to provide sectional images. The aim of the study was to apply this technique to the evaluation of the whole female pelvis at rest and during movement (straining).

Methods

12 women (3 with normal pelvic floor and 9 with genital prolapse of different grades) were examined with EBCT in the continuous volume scanning mode (CVS) in relaxation and during straining (3 mm slice thickness and 2 mm table feed; scan time 100 ms) to obtain static images. Dynamic images of the pelvic floor and adjacent organs were obtained in the multislice flow mode (50ms exposure time) while the patients were asked to strain. The data of these studies were transferred to an external high performance workstation which allows 3D-display with real time interaction. The static 3 mm CVS studies acquired in relaxation and during straining were rendered in different display modes. The multislice flow mode image series consisting of 20 data volumes with 8 slices from each 224 ms scan interval were automatically assorted by a program developed by one of the authors. By interpolating the entire data volume to 2 mm slice spacing and subsequent volume rendering a set of twenty 3D images for a 3D movie with a time resolution of 232 ms was created.

Results

In all examinations static and dynamic two- and three-dimensional reconstructions of the pelvic floor were possible. A 3D-movie with a time resolution of 232 ms over a range of 7.6 cm in the z-axis was created. The anatomy of the striated pelvic floor musculature and the adjacent organs were well demonstrated on the axial slices. During valsalva manoeuver a marked lateral motion of the two portions of the levator plate as well as a caudal displacement of the pelvic organs could be seen.

Conclusions

EBCT can provide both anatomical and dynamic assessments of the female pelvic floor. The documentation of the downward displacement of the pelvic organs and the lateral motion of the two portions of the levator plate can be visualized using this technique.