

ENDOANAL ULTRASOUND – AN OBJECTIVE DIAGNOSTIC SCREENING METHOD OF ASSESSMENT OF FECAL INCONTINENCE?

Hypothesis / aims of study

Endoanal ultrasound is often used as screening method in order to find an assessment of fecal incontinence. Estimates of the prevalence of anal incontinence do range between 1.5 and 2.2 percent. Endoanal ultrasound screenings show that after vaginal delivery 25-35 percent of women have an anal sphincter defect. This must not necessarily be considered as being symptomatic.

The aim of our study has been to evaluate the correlation between clinical examination and the results of endoanal ultrasound concerning women with symptoms of fecal incontinence. Additionally we tried to define new criteria for judging the morphology of sphincters using endoanal sonography.

Study design, materials and methods

We started our studies in May 2002 and did continue up to February 2005. During this period we did examine a group of 90 women; 45 of these patients had symptoms of anal incontinence; their ages did range between 25 and 77 years. (Main age, 52 years; median age, 50 years). Our control group consisted of other 45 women, they all were asymptomatic. Their ages ranged between 19 and 42. (Main age, 34 years; median age, 35 years). Both groups were comparable concerning parity and kind of delivery (spontaneous delivery, instrumental delivery). All subjects of our study filled in a detailed questionnaire about their symptoms of anal incontinence and constipation. Additionally we did run a physical examination that included inspections of the perianal area and an internal digital examination. Thus we did get an assessment of the anal resting tone and its correlation to the squeeze tone.

We did perform endoanal ultrasound by using a dedicated unit (10-MHz transducer; B&K Medical; Gentofte Denmark).

Results

women	internal sphincter defect	external sphincter defect	digital detection of sphincter defect	levator contraction
with anal incontinence (n=45)	53%(21/45)	64%(24/45)	13%(6/45)	1.5
control group (n=45)	11%(5/45)	13%(6/45)	0%(0/45)	2.5
p-level	<0.05	<0.05	0.38	0,20

Only women who were younger than 50 years did have sphincter defects. Woman who were older than 50 years and had symptoms of fecal incontinence did not have sphincter defects. Statistics did not show any significant differences between the thickness of the sphincter muscles. But endoanal ultrasound did show differences in the morphology of the sphincter muscles. Women with symptoms of anal incontinence did have broader internal sphincters and thinner external sphincters. Seen in correlation to the different ages of both groups this result had no specific significance.

We did compare the results of our physical examinations and the data of endoanal ultrasound and realized that the results found with endoanal ultrasound (differences in morphology and thickness of the sphincter muscles) could not be achieved by inspections of the perianal area or internal digital examinations.

Interpretation of results

Our study implies that fecal incontinence of women who are younger than 50 years is obviously caused by a defect resulting of a trauma inflicted by delivery. But what has happened to women who are older than 50 years and begin to have symptoms of fecal incontinence? The differences in the morphology of the sphincter muscles may be a reason for these symptoms. But we will run further studies on a control group of women with matching ages in order to get some more reliable data concerning this assumption.

Concluding message

Endoanal ultrasound is a reliable method to get an assessment of anal incontinence concerning women having symptoms. But we are of the opinion that there should be further studies about the possibility of the preciser examinations of the morphology of sphincter muscles.