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IS THE ST. MARK'S SCORING SYSTEM SUITABLE FOR ASSESSMENT OF ANAL INCONTINENCE FOLLOWING REPAIR OF OBSTETRIC ANAL SPHINCTER INJURIES (OASIS)?

Hypothesis / aims of study

Several scoring systems have been designed to quantify and objectively assess anal incontinence in symptomatic patients. The St. Mark's grading system for fecal incontinence has shown the highest correlation with the physician's clinical impression when compared to three other grading systems (1).

The main focus of continence grading systems is on physical aspects, but whether this correlates with the impact of anal incontinence on quality of life (QoL) is questionable. Most studies to establish this relationship were done in a middle-aged population seeking medical attention for fecal incontinence. In a study including 259 subjects with longstanding fecal incontinence, an increase in St. Mark's score was related to more reported problems in usual activities, more pain/discomfort and anxiety/depression (2). Furthermore there was a significant but moderate correlation between St. Mark's score and patients' subjective perception of bowel control, irrespective of type of incontinence (3).

However women who sustain obstetric anal sphincter injuries (OASIS) and report symptoms of anal incontinence are mostly young and healthy and therefore differ from subjects in previous studies. It remains to be established whether the St. Mark's scoring system is a reliable indicator of severity of symptoms affecting QoL in women with predominantly minor symptoms.

The aim of this study was to assess the relationship between severity of anal incontinence, as measured with the St. Mark's grading system, and the disease specific impact on different domains of QoL, following primary repair of OASIS.

Study design, materials and methods

Consecutive women attending our perineal clinic for follow up after sustaining OASIS were included in this study. As part of the normal protocol patients completed a Manchester Health Questionnaire (MHQ) and the clinician performed a St. Mark's score as part of the patient's history. The MHQ is a validated disease specific QoL questionnaire assessing the effect of bowel problems on different domains that include General Health Perceptions, Incontinence Impact, Role Limitations, Physical Limitations, Social Limitations, Personal Relationships, Emotions, Sleep/Energy and Severity Measures scoring from 0 (never affected) to 100 (always affected).

The validated St. Mark's grading system is based on the type and frequency of anal incontinence (gas, fluid, solid) and the impact on daily life, the need to wear a pad or plug, the use of constipating medication and the presence of urgency. It gives a total score from 0 (complete continence) to 24 (complete incontinence).

Three severity subgroups were formed based on St. Marks score; 0-4, 5-8 and > 8. These cut-off values were chosen based on the fact the grading system gives 4 points for daily occurrence of incontinence of flatus, liquid or solid stool.

Spearman's correlation coefficient was calculated for all different QoL domains and total St. Mark's score. Mann Whitney U test was done to compare mean QoL domain scores for the different severity subgroups. A p-value < 0.05 was considered significant.

Results

A total of 368 women were included in this study, mean age of 30 (SD 5.4) years, and a mean follow up of 10.3 (SD 7.4) weeks after delivery.

The mean St Mark's score was 1.35 (SD 3.2), with a range of 0 to 20. Seventy-five percent of all subjects were asymptomatic, i.e. had a St. Mark's score of 0. The mean MHQ QoL domain scores are presented in Table 1.

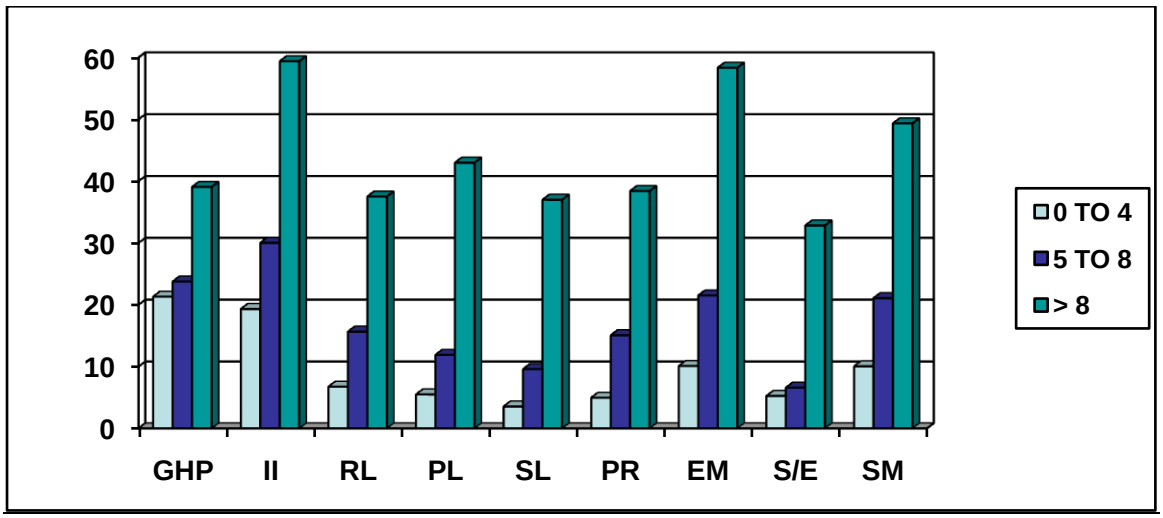
Every QoL domain score showed significant correlation with total St. Mark's score (Table 1).

Table 1 Correlation between QoL domain score and St. Mark's score (n = 368)

Quality of Life Domain	Mean	Spearman's r	Significance
General Health Perceptions (GHP)	22.21	0.172	0.001
Incontinence Impact (II)	21.64	0.268	< 0.001
Role Limitations (RL)	8.57	0.307	< 0.001
Personal Limitations (PL)	7.49	0.359	< 0.001
Social Limitations (SL)	5.34	0.397	< 0.001
Personal Relations (PR)	6.89	0.314	< 0.001
Emotions (EM)	12.88	0.384	< 0.001
Sleep/Energy (S/E)	6.55	0.269	< 0.001
Severity Measures (SM)	12.27	0.378	< 0.001

When comparing the different severity subgroups, a St. Mark's score > 8 (n = 16) gave significantly higher mean scores for all QoL domains compared to 0-4 (n = 332) and 5-8 (n = 20). The severity subgroups 0-4 and 5-8 were significantly different from each other in all QoL domains except General Health Perceptions and Sleep/Energy (Graph 1).

Graph 1: Mean MHQ QoL domain score in different St. Mark's severity subgroups



Interpretation of results

The St. Mark's score has a significant correlation with all MHQ QoL domain scores. Even though this correlation coefficient is small, it indicates that increasing severity of anal incontinence, as measured by the clinician, is correlated with an increasing impact of bowel symptoms on patient's QoL. For comparison between different St. Mark's scores, we divided patients into three severity subgroups. This showed that with increasing severity of anal incontinence patient's QoL is more affected. The incidence of symptoms of anal incontinence was low in our population, with 75% of patients being asymptomatic and only 16 women (4%) scoring > 8. Our results show that this anal incontinence scoring system can be used in population with low severity of symptoms such as women being followed up after primary repair of OASIS.

Concluding message

Objective assessment of severity of fecal incontinence by the physician, using the St. Mark's grading system, correlates to the impact of bowel symptoms on patients' QoL, in a relatively young population with low severity of symptoms. In the absence of a condition specific scoring system for post-partum women, the St Mark's scoring system can be used in the follow-up of women after primary repair of OASIS.

References

1: Gut (1999) 44; 77-80.
2: Colorectal Disease (2005) 7; 263-269.
3: Diseases of the Colon & Rectum (2008) 51; 436-442.

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Is this a clinical trial?	**No**
What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**No**
This study did not require eithics committee approval because	**part of regular clinical practice**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**