Resolution of Upper Gastrointestinal Symptoms Associated With Chronic Non-Steroidal Anti-Inflammatory Drug Therapy has a Positive Impact on Patient-Reported Productivity

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CONCLUSION

- **Results from this exploratory study indicate that successful treatment of upper gastrointestinal symptoms in chronic NSAID users has a significantly positive impact on their ability to work and carry out daily activities.**

1. INTRODUCTION

- It is estimated that 20–35% of patients using NSAIDs, including COX-2 selective NSAIDs, suffer from upper GI symptoms.[1,2]
- A recent international, placebo-controlled clinical study (n=556) demonstrated the efficacy of 4 weeks' esomeprazole treatment in relieving upper GI symptoms (defined as upper abdominal pain, discomfort or burning) associated with continuous COX-2-selective and non-selective NSAID use in a non-ulcer population.[3]

2. AIM

- To explore the impact of upper GI symptoms, in chronic NSAID users, on the ability to work and carry out daily activities.

3. METHODS

- A productivity questionnaire was given to all the Swedish patients (n=77) participating in the clinical study.[3] Responders and non-responders after 2 or 4 weeks' treatment were identified by use of upper GI symptom diaries (primary measure in clinical study). Responders were defined as having a reduction in symptoms to no more than 2 days with mild symptoms, on a 7-grade Likert scale, during 7 consecutive days.
- Results were calculated for responders and non-responders irrespective of treatment. Other patient-reported instruments in the study included the Quality of Life in Reflux and Dyspepsia (QOLRAD) questionnaire[5] and the Gastrointestinal Symptom Rating Scale (GSRS).[6]

Productivity questionnaire

- A Work Productivity and Activity Impairment (WPAI) questionnaire, previously used and validated in patients with gastroesophageal reflux disease,[4] was modified to assess the impact of upper GI symptoms on productivity during the previous week. The questionnaire contains three questions relating to work time: hours absent from work due to upper GI symptoms; hours absent from work due to other reasons; and hours actually worked. There are two questions regarding reduced productivity: one relates to the percentage by which productivity at work is reduced due to upper GI symptoms and the other to the percentage by which productivity is reduced while performing regular daily activities other than work.

Quality of Life in Reflux and Dyspepsia

- QOLRAD is a disease-specific questionnaire with questions assessing the impact of upper GI symptoms on quality of life (QoL) during the previous week, in which 25 items combine into 5 dimensions: Sleep disturbance, Food and drink problems, Emotional distress, Vitality, and Physical/social functioning.

Gastrointestinal Symptom Rating Scale

- GSRS is a scale for assessing GI symptoms during the previous week, in which 15 items combine into 5 dimensions: Indigestion, Abdominal pain, Reflux, Diarrhoea, and Constipation.

4. RESULTS

- Evaluable productivity data were obtained from 61 patients (mean age 54 [range 20–78] years; 41 responders, 20 non-responders) of which 27 patients (44%; 14 responders, 13 non-responders) were employed.
- Table 1 shows that before the start of treatment (baseline), patients reported an average of 0.4 hours absence from work (per patient, per week); a reduction in work productivity of 13%; and a reduction in productivity in daily activities of 26%, because of upper GI symptoms.
- The mean differences between responders and non-responders after treatment (follow-up) were 0.7 hours for absence from work, 12 percentage units for reduced work productivity and 16 percentage units for reduced productivity in activities.
- On a weekly basis, therefore, results imply that treatment success is associated with an avoidable loss of work productivity of around 4.6 hours per patient employed, of which 0.7 hours are due to absence from work and 3.9 hours to reduced productivity while at work.

Table 1. Productivity results for all patients at baseline and for responders/non-responders at follow-up after 2 or 4 weeks (4-week data used for non-responders at 2 weeks)

	Baseline		Follow-up					
	All patients		Responders		Non-responders		Difference	
	Mean value	n	Mean value	n	Mean value	n	Mean value	p-value§
Hours absent	0.4	26	0.0	13	0.7	13	0.7	0.18
Reduced productivity, work	13%	27	4%	14	16%	13	12%	<0.05
Equivalent in hours#	4.0	27	0.9	14	4.8	13	3.9	<0.05
Reduced productivity, activities	26%	61	9%	41	24%	20	16%	<0.01

#Hours lost due to reduced productivity while at work = number of hours actually worked multiplied by per cent of reduced productivity.

§Wilcoxon two-sample test.

- Table 2 shows change score correlations between disease-specific QoL dimensions, GI symptoms, and reduced productivity variables. Despite the small population sample, 8 of the 10 correlations between reduced productivity and GI-related QoL measurements (QOLRAD dimensions) were statistically significant and relatively high (range: 0.4–0.6), supporting the validity of these productivity measurements.
- Furthermore, a relationship was established between reduced productivity variables and GI symptoms (GSRS dimensions and upper GI symptom diary data), the strongest being with the GSRS dimension Abdominal pain.

Table 2. Change score correlations between baseline and 4 weeks (2-week data used when 4-week data were missing); Pearson correlation coefficients

	Reduced productivity, work (n=25)	Reduced productivity, activities (n=57)
QOLRAD dimensions		
Emotional distress	0.6**	0.4**
Sleep disturbance	0.6**	0.3
Food and drink problems	0.5**	0.5**
Vitality	0.6**	0.5**
Physical/social functioning	0.4	0.6**
GSRS dimensions		
Indigestion	0.4*	0.4**
Abdominal pain	0.6**	0.4**
Reflux	0.1	0.3*
Diarrhoea	0.4	0.1
Constipation	0.3	0.3*
Upper GI symptoms	0.4	0.5**

Abbreviations: GI = gastrointestinal; GSRS = Gastrointestinal Symptom Rating Scale; QOLRAD = Quality of Life in Reflux and Dyspepsia. *p<0.05; **p<0.01.

5. REFERENCES

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