SUMMARY

Introduction

Non-steroidal anti-inflammatory drug (NSAID)-induced enteropathy represents an important complication related to one of the most commonly used drugs worldwide. The prevalence has been underestimated for a long time due to previous diagnostic difficulties.

Objective

The main goal of our project was to evaluate the basic characteristics of NSAID-induced enteropathy as well as the benefit of capsule endoscopy in its diagnostics.

Methods and results

In the first, experimental, part of the dissertation, we elaborated methodology of capsule endoscopy in an experimental animal and checked it on 7 healthy pigs. Although normal enteroscopy pictures were found in all the animals, some limitations were identified. The markedly worse visibility of the small bowel mucosa, and incomplete evaluation were the main ones. A model of NSAID-induced enteropathy (using a 10-day per oral indomethacin administration – 400 mg/day) was projected and verified in 8 healthy pigs consecutively. The endoscopy findings were confirmed by means of autopsy. We revealed the presence of small intestinal mucosal lesions on capsule endoscopy in the majority of the experimental pigs (87.5%). The most frequent findings were mild mucosal injury (red spots and erosions) in 6/8 animals. These findings were confirmed in 50.0% at autopsy, probably due to the aetiology of these changes (mucosal congestion could hardly be revealed by gross autopsy). Clinically more important lesions (small bowel bleeding) were observed in one animal only. Sensitivity, specificity, positive predictive, and negative predictive values of capsule endoscopy for NSAID-induced enteropathy were: 83.3%, 95.8%, 83.3 % and 95.8 %.

In the second (clinical) part of the dissertation the prevalence of NSAID-induced enteropathy was 61% in 51 long term NSAID users and the prevalence of NSAID-compatible lesions was 15% in the control group of healthy volunteers. Mild, medium, and severe enteropathy was described in 45.1%, 7.8%, 7.8 % patients and in 15.4 %, 0%, 0% healthy volunteers. The most frequent findings were so-called red spots (mucosal erythaema foci) and small intestinal erosions (up to 10). We confirmed severe damage of the small bowel (ulcers or multiple erosions) in 16% of long-term NSAID users.

Rheumatoid arthritis patients with small bowel lesions were treated using Sulphasalazine or Sulphasalazine and Metronidazole, depending on the severity of the enteropathy involved. The NSAIDs were discontinued or their dose reduced. The main problem we revealed, was the low compliance due to adverse events described by patiens (dyspepsia). Despite this, the enteroscopy findings (on control capsule endoscopy after 8 weeks of therapy) were better in two thirds of our patients. The increase in haemoglobin levels was the only one marker (from observed laboratory or clinical markers) with a statistically significant diference before and after the treatment.

We also focused on laboratory and/or clinical predictors for NSAID induced enteropathy . Despite some promising results (erythrocyte sedimentation, CRP), both anaemia and inflammatory markers can not be recommended for diagnostics of NSAID-induced enteropathy or its severity. The clinical markers appeared not to be very reliable.

Conclusions

Our project confirmed the advantages of capsule endoscopy in diagnostics of NSAID-induced enteropathy in an experiment and in a group of long-term NSAID users. These are namely safety, minimal invasiveness, and a high diagnostic yield.