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*Can nonsteroidal anti-inflammatory drugs favourably affect
the alimentary canal?*

Nonsteroidal anti-inflammatory drugs (NSAIDs) are the most commonly recommended pharmaceutical preparations worldwide. 1.5% of the world's population is estimated as taking NSAIDs. At least 60 mln prescriptions for them are issued annually. In the USA, 13 mln people take them periodically and over 1% of the population – daily (6, 9, 11, 12).

It has been known for a long time that nonsteroidal anti-inflammatory drugs are likely to damage the mucous membrane of the stomach or duodenum, which may sometimes result in very severe complications.

It is a paradox that some evidence of their favourable effects on the alimentary canal has recently been reported. Wider knowledge concerning these effects may allow us in the future to use NSAIDs as preventive measures in carcinoma or adenocarcinoma of the colon or even in carcinoma of the esophagus (10).

Although NSAIDs are still generally believed to have toxic effects on the alimentary canal, there are some reports showing their favourable actions. These actions mainly concern the protective functions in carcinomas of the digestive system, in the treatment of motor disorders of the alimentary canal or of inflammatory diseases, e.g. reflux esophagitis. The fullest data concern the NSAIDs effects on the neoplastic lesions of the colon. The majority of such carcinomas originate from adenocarcinomas treated as preneoplastic changes. The neoplastic tissues show increased amounts of prostaglandin E₂. It has been well demonstrated that overproduction of this prostaglandin results from overexpression of COX-2 which stimulates carcinogen activation and impairs apoptosis. Based on these findings the studies were undertaken to determine the effects of NSAIDs on the development of colon carcinoma. The studies showed that aspirin taken regularly decreased the risk of sporadic adenomas of the colon and number of colon carcinoma deaths by about 50% (7). The longer NSAID treatment, the higher reduction of carcinoma risks. Some studies revealed that the treatment with acetylsalicylic acid for over 20 years reduced the risk of colon carcinoma by about 44% (3). The patients who are par-

ticularly at risk of colon carcinoma are those with genetically-determined syndromes: familial polyposis and hereditary non-polyposis carcinoma of the colon. There are some reports confirming favourable effects of sulindac on the decrease in number and size of colon adenomas (2). However, no findings have shown that these lesions disappear completely or that such management reduces the carcinoma risk in familial polyposis syndrome. Nevertheless, it has been confirmed that the sulindac treatment also decreased the number of duodenal adenomas, which often accompany familial polyposis (8). It is noteworthy that the experimental studies confirm the role of NSAIDs in preventing chemically-induced colon carcinomas. There is some evidence showing that the role of selective inhibitors of COX-2 may be bigger than that of classical NSAIDs, e.g. celecoxib reduced the number of experimental colon carcinomas in rats by over 93-97%, i.e. to a higher degree than classical NSAIDs (5). Additionally, when decreased risk of alimentary complications observed during COX-2 inhibitor therapy compared to classical NSAID treatment is taken into account, it seems that soon chemoprevention of colon carcinoma is likely to be recommended in practice.

Some findings reveal that NSAIDs may also prevent the development of other neoplastic lesions of the alimentary canal, e.g. carcinoma of the esophagus. The treatment with acetylsalicylic acid carried out for 12-16 years reduced the risk by about 90%, both in cases of squamous carcinoma and adenocarcinoma (1). Further studies may show the effectiveness of NSAIDs in Barrett's esophagus. Their use in such cases would mean a major management breakthrough allowing limiting the endoscopic control, which many patients find extremely inconvenient. Yet further clinical studies concerning this issue are needed.

The clinical studies evaluating the NSAID effects on the treatment of acute biliary colic are also encouraging. They showed the analgesic effectiveness of a single dose of diclofenac (75 mg) in patients with cholelithiasis reporting the symptoms of biliary colic (4). Moreover, diclofenac may reduce the risk of cholecystitis. It appears that the use of NSAIDs decreases the percentage of cholelithiasis recurrence. In this case, the short-term administration of small doses of aspirin effective in secondary prevention of cholelithiasis is quite promising.

At present the studies are being carried out to show the therapeutic action of NSAIDs in pancreatitis since animal experiments confirmed harmful effects of prostaglandins in pancreatitis. The suggested favourable effects of NSAIDs on alcoholic hepatic damage or diarrhoea following abdominal radiotherapy are least demonstrated (10).

Future studies may show, however, that NSAIDs have favourable effects on many diseases of the alimentary canal and the general belief about their toxic action will be changed. The greatest expectations concern chemoprevention of one of the most common alimentary carcinomas, i.e. colon carcinoma.

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SUMMARY

Nonsteroidal anti-inflammatory drugs (NSAIDs) represent one of the most commonly used therapeutic drug groups world wide. 1.5% of the world's population is estimated as taking NSAIDs. Although NSAIDs are still generally believed to have toxic effects on the alimentary tract, some evidence of their favourable effects on the alimentary canal has recently been reported. Wider knowledge concerning these effects may allow us in the future to use NSAIDs as preventive measures in carcinoma or adenocarcinoma of the colon or even in carcinoma of the esophagus, in the treatment of motor disorders of the

alimentary tract or inflammatory diseases, e.g. reflux esophagitis. The clinical studies evaluating the NSAID effects on the treatment of acute biliary colic and the short-term administration of small doses of aspirin effective in secondary prevention of cholelithiasis are also encouraging. At present the studies are being carried out to show the therapeutic action of NSAIDs in pancreatitis.

Czy niesteroidowe leki przeciwzapalne korzystnie wpływają na przewód pokarmowy ?

Niesteroidowe leki przeciwzapalne (NLPZ) reprezentują najczęściej stosowaną grupę leków w świecie. Stosuje je 1,5% populacji. W świadomości lekarzy utrwaliło się przekonanie o toksycznym działaniu NLPZ na przewód pokarmowy, mimo to ostatnio pojawiły się dowody korzystnego działania tych leków w układzie pokarmowym. Ich poznanie sprawi, być może, że już w niedalekiej przyszłości NLPZ będą pierwszą grupą leków stosowanych w prewencji raka i gruczolaków jelita grubego, w prewencji raka przełyku, w leczeniu pewnych zaburzeń motoryki przewodu pokarmowego, leczeniu chorób zapalnych, m.in. refluksowego zapalenia przełyku. Zachęcające są prace kliniczne oceniające wpływ NLPZ na leczenie ostrej kolki żółciowej czy stosowanie małych dawek aspiryny we wtórnej prewencji kamicy żółciowej. Prowadzone są prace mające na celu wykazanie terapeutycznego działania NLPZ w chorobach zapalnych trzustki.