

## SURVEILLANCE

## Comments to regional problems of analgesic risk perception

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**Abstract:** *Objectives:* The aim of our study was to analyse analgesic risk perception and then to compare analgesic drug choice among general practitioners.

*Method:* The structured questionnaire was used and completed during continuous medical education lectures. Series of targeted open or close questions and visual analog scale (VAS) to determine drug risk perception were used. Slovak general practitioners attending continuous medical education lectures during 2004–2005 were invited to participate in the study. Group 1 consisted of respondents from Bratislava (capital city of Slovakia, n=245) and group 2 consisted of general practitioners from 3 other cities (middle and eastern Slovakia, n=325). Data were compared to reported adverse drug reactions.

*Results:* Quarter of doctors 25.3 % (n=62), (25.2 % (n=82) respectively), considered non-steroidal anti-inflammatory drugs to be the safest group of analgesics. Gastrointestinal damage in general was perceived as most common adverse drug reaction. 72.41 % (75.94 % respectively) of respondents considered analgesics as exactly or probably danger. Perceived drug risk labeled on VAS was 4.23 (SD 1.52), ( 3.22 (SD 2.19) respectively) (p<0.05). Total number of reported adverse drug reactions in years 1998–2002 was 3249, 412 were related to analgesic use. Specific organotoxic adverse drug reactions (nephrotoxicity, etc.) were reported rarely. *Conclusion:* The actual perception of analgesic risk in Slovakia seems to be generally inadequate. We found only a low support of spontaneous adverse drug reactions reporting to the national monitoring system (Tab. 1, Fig. 2, Ref. 11). Full Text in free PDF [www.bmj.sk](http://www.bmj.sk).

**Key words:** analgesics, risk perception, prescribing preferences, general practitioners.

Analgesics are amongst the most widely prescribed drugs worldwide (1). Currently they are considered to be one of the most dangerous drugs in population use and therefore analgesic risk assessment is the cornerstone of pain management.

Despite some research success (referring to safety studies on use of these medicines) questions about their safety remain unanswered (2). Rofecoxib was a selective cyclooxygenase 2 inhibitor (promising drug), whose withdrawal from the market on 30th of September 2004 came after detected increased risk of myocardial infarction (as an example of insufficient risk prevention) (3, 4).

Treatment of pain is a common problem and the European Medicines Agency (EMA) has discussed administration of coxibs, nimesulide and piroxicam. This “post rofecoxib era” has created new problems, raised new questions and brought new critics (5).

Perception of drug risk may be reflected partly in spontaneous adverse drug reactions (ADR) reporting, partly in prescribing preferences and also in awareness of ADR. In other words perception of drug risk is an actual impression (6, 7).

The aim of our study was to analyse analgesic risk perception and then to compare analgesic drug choice among general practitioners (GPs) in different cities of Slovakia. We have also tried to determine the prescribing habits of Slovak health professionals in relation to their perceived drug risk.

### Methods

Risk perception as a product of individual human thinking is difficult to study. Exclusion of experimental methods force indirect measurements as: analysis of prescribing decisions of doctors, study of spontaneous ADR monitoring (3) and various forms of structured questionnaires including visual analog scale (VAS).

Data in our cross-sectional study were collected using the generally accepted method of a questionnaire. GPs attending Continuous Medical Education (CME) lectures during 2004–2005, were invited to participate in the study. The questionnaire was completed during CME lectures. We have an intention to know an influence of education centre and therefore divided respondents into two groups, one belonging closer to university position, second from rural area. Group 1 consisted of respondents from Bratislava (capital city of Slovakia, n=245) and group 2

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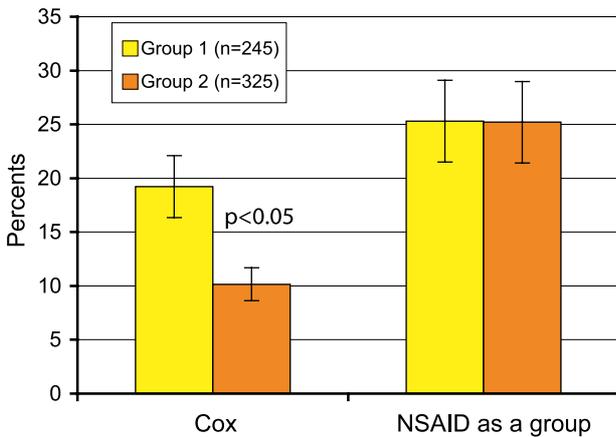


Fig. 1. Results from questionnaire – safest analgesic drug.

consisted of GP’s from 3 other cities (middle and eastern Slovakia, n=325). We have tried to compare possible regional influence as well as vicinity of medical faculty.

Participants were answered a battery of 10 combination targeted open or close questions regarding to perceived drug risk and the type of ADR most frequently associated with analgesic use. Answers were creative or predefined. At the end of questionnaire respondents were also asked to determine drug risk/benefit ratio on typical VAS. Respondents were asked to make a mark on the line that represented their perceived level. The VAS was analysed by measuring distance from the white end (marked low, zero point).

Results obtained in whole group were compared with number of all adverse drug reactions reported to the national spontaneous ADR monitoring centre and were considered as indirect signal of perceived risk of medication. Data were obtained from State Institute for Drug Control of Slovak republic.

The statistical analysis of data obtained was done using Statgraphics Plus 5.1 and Microsoft Excel 2000. For statistical comparison Student’s t-test was used. Differences were tested using a significance level of  $p < 0.05$ .

**Results**

570 general practitioners finally were involved in the study. Average age of GPs was 50.5 (SD ± 8.8) years and consisted of 41.9 % men and 58.1 % women. 1000 doctors were invited to participate and the response rate was 57 %.

Quarter of doctors 25.3 % (n=62), (25.2 % (n=82) respectively), generally considered non-steroidal antiinflammatory drugs to be the safest analgesic drug. Coxibs are in Bratislava considered as second safest drug class. Outside Bratislava they are considered to be only the fourth safest analgesics ( $p=0.00025$ ) (Fig. 1).

Gastrointestinal damage in general was labeled as the most common adverse reaction and 34.8 % of respondents characterised gastrointestinal damage as presence of dyspepsia and gastric pain. GIT bleeding was considered as relatively rare event.

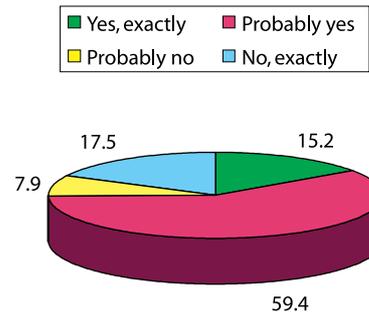


Fig. 2. Are analgesics danger?

Figure 2 shows the answers to the general question: “Do you think that analgesics are dangerous drugs?”. 74.6 % (425/570) of general practitioners considered analgesics as exactly or probably dangerous – 72.41 % (75.94 % respectively).

Perceived drug risk labeled on VAS was 4.23 (SD 1.52) ; 3.22 (SD 2.19) respectively ( $p < 0.05$ ).

Data from the State Institute for Drug Control (SIDC) in Slovakia concerning spontaneous reports reflect possible drug hazard only partially. Accumulated data from the years 1998–2002 of spontaneous reports of NSAID related ADRs are shown in Table 1.

Total number of reported ADRs in years 1998–2002 was 3249, 412 were related to analgesic use. The majority of the analgesic reports were related to administration of NSAIDs. Specific organotoxic ADRs (nephrotoxicity, etc.) were reported rarely. Doctors are more likely to report at first visible adverse reactions. Skin disorders were the most reported ADRs and serious reports constituted only 21.51 % in the year 2004 (refer to all ADRs for all drugs).

**Discussion**

This brief report shows initial results from analysis of data collected in cross-sectional study to examine GPs perception of

Tab. 1. Reported adverse drug reactions related to analgesics 1998-2002 (n = 412).

	Derma	GIT	CVS	CNS	Angioedema	Other (nephrotoxicity)
ASA	41	1	0	2	5	0
Ibuprofen	36	3	6	3	7	8
Paracetamol	27	0	0	1	1	6
Diclofenac	50	8	0	2	2	1
Indometacin	4	1	1	0	1	4
Ketoprofen	42	3	0	2	2	1
Flurbiprofen	9	2	1	0	1	2
Piroxicam	7	1	0	0	1	2
Meloxicam	6	4	1	2	0	9
Nabumeton	4	5	0	0	0	0
Nimesulid	8	0	0	0	0	1

the risk of analgesics measured as answers to standard questions of structured questionnaire, VAS results and indirect signs, as number of reported ADR to national centrum. These results did not signalize required critical thinking in term of drug risk assesment. The validation of the questionnaire can be influenced with false positive/negative answers as well as with lack of interest of GP's (absense of required time, etc.).

Fast three quarters (74.6 %) of doctors considered analgesics to be probably or exactly dangerous, but there is expected knowledge of all limitation of NSAIDs use related to well documented risk. Indirect support of inappropriate risk perception of NSAIDs came from analyses of spontaneous reports from State Institute for Drug Control.

Small insignificant difference of perceived risk were among group of GPs working outside, rather far of educational centers, comparing to group working near capital. Significant differences were observed in perception of 'safety' of acetaminophen and opioid analgesics outside Bratislava.

Only negligible part of reports to Slovak National Center were serious ADR as GIT bleeding, or renal dysfunction that indicate a seriousness of NSAID risk in society. Doctors reported mostly visible reactions on the skin (exanthema, uricaria, etc.), this patern of reported ADR reflects general data from WHO database (8).

Our regional cross sectional data are not surprisingly related to generally accepted opinion, that number of spontaneus reports did not reflect adequately defined risk listed in SPC (Summary of product characteristic). Obtained results only support a hypothesis, that knowledge of both the risk of ADRs associated with the use of analgesics is not an exception of a general underreporting of ADR (9).

It is difficult to assume a final statement according difference in risk perception and evaluation between GPs, who practise close to or outside the educational centers. Doctors declaring opioid analgesics as tramadol and nonopioid analgesics as acetaminophen to be the safest analgesic, used these only few.

The number and quality of spontaneously reported ADRs indicates a lack of interest of medical professionals in participating in this form of pharmacovigilance in the Slovak Republic despite their obligation to report observed (suspected) ADRs by law.

Adequate knowledge of possible preventable ADRs is the ultimative aim/goal for prescribers (10) and our results revealed not only difference in risk perception, but there is a suspicion of ineffective form of CME typical for helth care systems in transition period. Published results related to drug risk evaluation can trigger a discussion needed for changes in postgradual education process in medicine.

In order to promote a greater awareness of the reporting system, a redefinition of its expectations and targeted feedback seem to be essential. Increased reporting can also be achieved by the

presence of an professionals dedicated to reporting and educating others (11).

Results from cross sectional study are signalling a low risk perception of NSAIDs in community of Slovak GPs. More than a quarter of questionned doctors consider NSAID as a group to be the safest analgesic drug and 74.6 % respondents claimed analgesics as a dangerous drugs. Obtained results support previous signal proving CME is not supportive to rational decisions related to prescibing patterns of NSAIDs as pain relievers. The actual perception of analgesic risk in Slovakia seems to be inadequate. Appropriate education, adequate communication and activities improving participation in the state system of pharmacovigilance are needed.

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