

Original article



OPINION SURVEY OF THE CARDIOLOGISTS IN BULGARIA REGARDING THERAPY WITH ACETYLSALICYLIC ACID, CLOPIDOGREL AND ACENOCOUMAROL IN PATIENTS UNDERGOING DENTAL EXTRACTIONS.

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SUMMARY

Purpose: Cardiovascular diseases are the leading cause of mortality and disability worldwide. Major role in the treatment and prophylaxis of these diseases and their complications has antiplatelet and anticoagulation therapy. Routine practice in the past was an interruption of antiplatelet and anticoagulant medication before dental extraction. Today most authors and dental associations recommend maintaining therapeutic levels of antithrombotic drugs in single or multiple teeth extractions due to the fact that the risk of serious embolic complications outweighs the risk of bleeding. The aim of the present study is to determine the opinion and approach of cardiologists in Bulgaria regarding therapy with Aspirin, Clopidogrel and Acenocoumarol in patients undergoing dental extractions.

Material and Method: 222 cardiologists were interviewed about their approach in terms of antithrombotic therapy with acetylsalicylic acid (Aspirin), Clopidogrel (Plavix, Trombex) and Acenocoumarol (Sintrom) in patients undergoing dental extractions.

Results: There is no consensus and an established protocol on the cessation of enrolled medications and how long before dental extraction.

Conclusion: There is no approved protocol regarding administration of acetylsalicylic acid (Aspirin) Clopidogrel (Plavix, Trombex) and Acenocoumarol (Sintrom) in patients undergoing teeth extraction. A large number of thromboembolic complications due to interruption of the therapy has been reported.

Keywords: cardiologists, acetylsalicylic acid, clopidogrel, acenocoumarol, tooth extraction

INTRODUCTION

Cardiovascular disease (CVD) and cerebro-vascular diseases (CVD) are the leading cause of mortality and disability worldwide, as each year CVD cause 1/3 of all deaths worldwide. [1] In Europe CVD causes 47 percent, as in Bulgaria the rate is over 60 percent of all deaths. [2]

Leading in the treatment of these diseases and in the prophylaxis of their complications are antiplatelet and anticoagulation drugs. Millions of people worldwide are taking antithrombotic drugs on a daily basis. Extraction of teeth in these patients requires a special approach. Routine practice in the past was the interruption of antithrombotic medication prior to dental extraction aimed at reduction of the bleeding risk. [3, 4] Nowadays most authors and professional organizations (the American Cardiology Association, American Dental Association, British Dental Association, the American College of Chest surgery, Thrombosis group of Canada, The international society of thrombosis and hemostasis, etc.) recommend maintaining therapeutic levels of the antithrombotic medication with most dental surgical procedures, including single or multiple extractions, due to the fact that the risk of fatal thromboembolic complications overweight the risk of bleeding. [5 - 10] Yet there are still controversial opinions in the literature and in practice. [11, 12]

MATERIAL

The purpose of the present study is to establish the opinion and approach of cardiologists in Bulgaria regarding the treatment with Acetylsalicylic Acid (Aspirin), Clopidogrel (Plavix, Trombex) and Acenocoumarol (Sintrom) in patients with forthcoming teeth extractions.

A randomized study was conducted by interviewing 222 cardiologists for their approach to the antithrombotic therapy with Acetylsalicylic Acid (Aspirin), Clopidogrel (Plavix, Trombex) and Acenocoumarol (Sintrom) in patients undergoing dental extractions.

The study was conducted at National Congresses of Cardiology, and various scientific events of the Society of Cardiologists in Bulgaria were used in the period 2015 - 2016.

METHODS

Sociological Methods

A questionnaire containing ten questions was devel-

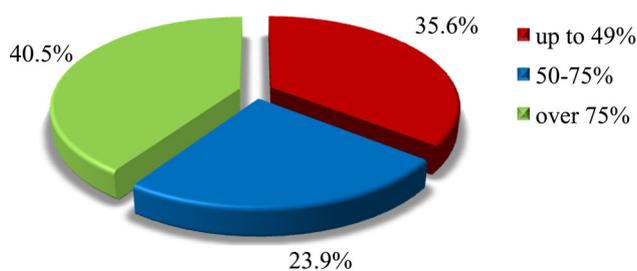
oped: Gender, professional experience, work placement, percentage of patients taking antithrombotic drugs, approach regarding therapy with Aspirin, Clopidogrel and Acenocoumarol (Sintrom) prior to tooth extraction, postponement of teeth extraction until the end of antithrombotic therapy, thromboembolic complications due to discontinuation of the antithrombotic therapy, hemorrhagic complications after dental extraction. With the exception of work experience and work placement, the respondents indicate one of two, three or four possible answers.

Table 1. Characteristics of the studied contingent

Characteristics		Number	Percentage %	Standard Error
Gender	Male	100	45,0%	3,3%
	Female	122	55,0%	3,3%
Work experience	Up to 10 years	111	50,0%	3,4%
	11-20 years	81	36,5%	3,2%
	Over 20 years	30	13,5%	2,3%
Work placement	Over 100 000	198	89,2%	2,1%
	Under 100 000	24	10,8%	2,1%

From the question “Approximately what percentage of your patients take anticoagulant and/or antiplatelet medication?”, most of the respondents (40.5%) have over 75% of patients taking antithrombotic drugs. 35.6% have up to 49% patients receiving antithrombotic drugs, and 23.9% of respondents have between 50 and 75% (Figure 1).

Fig. 1. Share of the patients receiving anticoagulants or antiplatelets.

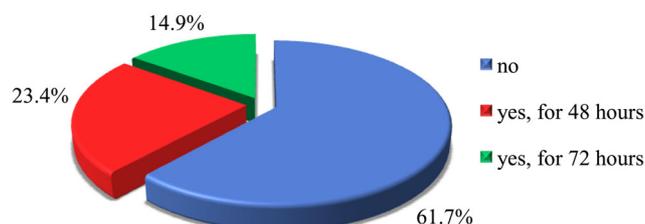


From the next question: “Do you interrupt the intake of Acetylsalicylic Acid (Aspirin) to your patients before teeth extraction?” with possible answers: “No”, “Yes”, for 48 hours”, “Yes, for 72 hours”; 2/3 (61.7%) of the interviewed cardiologists do not consider necessary to discontinue acetylsalicylic acid before dental extraction. The analysis revealed a statistically significant difference: cardiologists with over 75% of patients taking antithrombotic drugs in the highest percent did not interrupt drug intake before teeth extraction. (χ^2 28,794, df 4, P 0, 000). 23.4% of the interviewed discontinue acetylsalicylic acid for 48 hours, and 14.9% of respondents considered the interruption to be 72 hours (Figure 2).

RESULTS

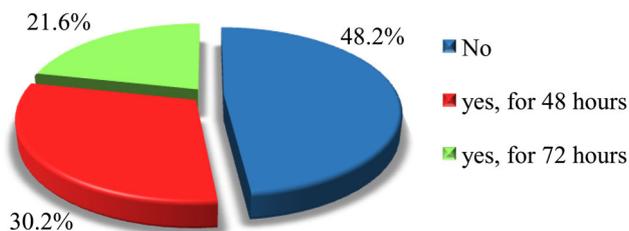
In the study were included 222 cardiologists, from which 100 men and 122 women. Half of the interviewed cardiologists (50.0%) have work experience up to 10 years, between 11 and 20 years work experience have 1/3 (36.5%) and over 20 years of experience have 13.5%. Most of the surveyed cardiologists (89.2%), practice in large settlements with over 100 000 inhabitants. (Table 1)

Fig. 2. The opinion of the cardiologists according to discontinuation of acetylsalicylic acid (Aspirin) before tooth extraction.



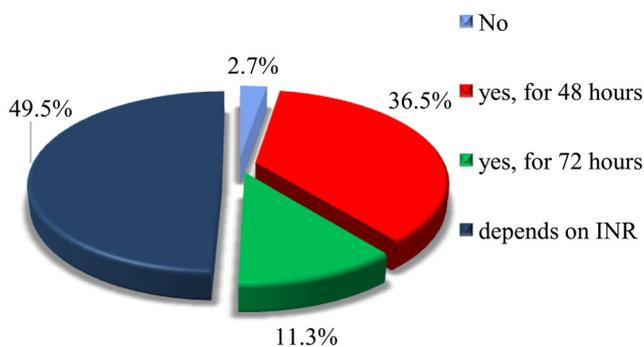
From the question: “Do you interrupt the intake of Clopidogrel to your patients before teeth extraction?”, with possible answers: “No”, “Yes”, for 48 hours”, “Yes, for 72 hours”; again predominant opinion among cardiologists (48.2%) is for the continuation of the Clopidogrel therapy before dental extraction which coincides with the recommendations of many authors. [12, 13, 14, 15] Here, too, a statistical difference is found: cardiologists with over 75% of patients receiving antithrombotic drugs in the highest % do not interrupt drug intake before teeth extraction. (χ^2 27,480, df 4, P 0,000), 1/3 of the respondents (30,2%) discontinue Clopidogrel intake for 48h and 21,6% of respondents consider for necessary discontinuation of Clopidogrel prior tooth extraction for 72h (Figure 3).

Fig. 3. The opinion of the cardiologists according to discontinuation of Clopidogrel (Plavix, Trombex) before tooth extraction.



From the next question: “Do you temporarily discontinue Sintrom in your patients before tooth extraction?” with possible answers: “No”, “Yes”, for 48 hours”, “Yes, for 72 hours”; and “Depends on INR level”; half of the respondents (49.5%) believe that behaviour is determined by the level of INR, which coincides with the recommendations of most authors in the literature. [5, 7, 8, 16, 17, 18] 36.5% of respondents believe that Sintrom should be discontinued for 48 hours before teeth extraction, 11.3% believe that Acenocoumarol should be discontinued for 72 hours and only 2.7% did not consider interruption of the medication for necessary (Figure 4).

Fig. 4. The opinion of the cardiologists according to discontinuation of Acenocoumarol (Sintrom) before tooth extraction.



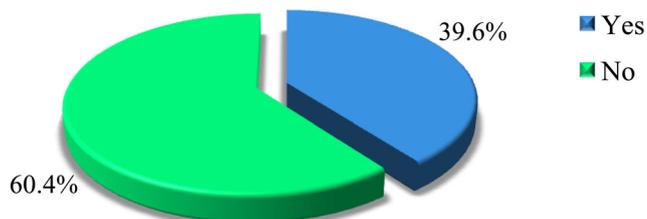
From the question: “Do you postpone teeth extraction until antithrombotic therapy is completed in some patients?” the answers were almost equal. 51.4% did not postpone compared to 48.6% who postpone extraction (figure 5). Statistical dependence between work experience and % of patients taking antithrombotic drugs was found: cardiologists with work experience below 10 years, and those with less than 49% of patients receiving antithrombotic drugs, more often postpone dental treatment until completion of the antithrombotic therapy. (χ^2 30,710, df2, P0,000), (χ^2 6,405, df2, P0,041).

Fig. 5. The share of the cardiologists depending on postponement of the teeth extraction until completion of the antiplatelet therapy.



From the question: “Have you had thromboembolic complications in your patients due to discontinuation of the antithrombotic therapy?” 39.6% report for patients with thrombotic complications due to discontinuation of the therapy (Figure 6). A statistical difference is found: cardiologists with work experience up to 10 years more often report such complications. (χ^2 15,608, df 2, P 0,000). Moreover: fewer thromboembolic complications were reported by cardiologists with fewer patients receiving antithrombotic drugs and vice versa (χ^2 14,588, Df 2, P 0.001)

Fig. 6. The share of the cardiologists reported for thromboembolic complications as a result of discontinuation of the antithrombotic therapy.



From the next question: “Are you aware of haemorrhagic complications after dental extraction in your patients, treated with an antiplatelet/anticoagulant drug?” 46.4% reported positive haemorrhagic complications, while 53.6% gave a negative response (Figure 7).

Fig. 7. The share of the cardiologists reported for hemorrhagic complications after dental extraction in patients taking antiplatelet/anticoagulant drug.



DISCUSSION

Based on the survey, it was found that a large proportion of the patients in Bulgaria take antithrombotic drugs. Regarding the intake of Acetylsalicylic acid there is no established protocol and unified opinion whether the medication intake should be interrupted and for how long before teeth extraction. The highest percentage of cardiologists (62%) do not consider for necessary to discontinue acetylsalicylic acid before tooth extraction, which coincides with most current recommendations. [13, 19, 20, 21]

Similar is opinion regarding intake of Clopidogrel before teeth extraction. Approximately 49% of the interviewed cardiologists did not consider for necessary discontinuation of the drug, which coincides with the literature and current recommendations. [14, 15]

With regard to Acenocoumarol (Sintrom), again there is no unified opinion and approach whether to stop intake and for how long before tooth extraction. The highest percentage of the interviewed cardiologists (40.8%) consider that Acenocoumarol (Sintrom) should be discontinued for 48 hours before tooth extraction, and nearly 50% of the cardiologists think that behaviour depends on the level of INR.

Thromboembolic complications as a result of discontinuation of the therapy were reported by 40% of the cardiologists. Postponement of a tooth extraction until completion of the antiplatelet/anticoagulant therapy was the preferred management by 49% of the interviewed cardiologists.

CONCLUSIONS

Many patients are taking antithrombotic medications, but there is no approved protocol regarding administration of Acetylsalicylic acid (Aspirin) Clopidogrel (Plaviks, Trombeks) and Acenocoumarol (Sintrom) in patients undergoing teeth extraction. A large number of thromboembolic complications due to interruption of the therapy has been reported. Majority of the cardiologists support non-interference in antiplatelet and anticoagulant therapy with INR in therapeutic range before dental extraction. This corresponds with current global recommendations, taking into account the fact that the risks of serious thromboembolic complications far outweigh the risk of haemorrhage.

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