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Rola rehabilitacji okołooperacyjnej u pacjentów z tętniakiem aorty brzusznej w opinii personelu medycznego

The role of perioperative rehabilitation in patients with abdominal aortic aneurysm in the opinion of medical

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Streszczenie

Wstęp: Tętniak aorty brzusznej jest schorzeniem coraz bardziej powszechnym. W wyniku rozwoju medycyny wzrasta liczba wcześnie rozpoznanych tętniaków aorty, co odpowiada zwiększeniu przeżywalności pacjentów z tą chorobą. W związku z powyższym wzrasta liczba chorych wymagających leczenia tego schorzenia, a co za tym idzie wdrożenia rehabilitacyjnego postępowania okołooperacyjnego.

Cel pracy: Analiza opinii personelu medycznego na temat roli rehabilitacji okołooperacyjnej u pacjentów poddawanych zabiegom operacyjnym tętniaka aorty brzusznej oraz wskazanie priorytetów w postępowaniu.

Materiały i metody: Badanie zostało przeprowadzone za pomocą metody sondażu diagnostycznego z użyciem autorskiego kwestionariusza ankiety. Badaniem objęto 102 osoby, w tym 76 pielęgniarek (74,50%) i 26 lekarzy (25,49%) ze średnią wieku 37,3 (±9,4) lat. Kwestionariusz zawierał pytania, w których personel wyrażał swoją opinię na temat roli rehabilitacji okołooperacyjnej u pacjentów poddawanych zabiegowi operacyjnemu tętniaka aorty brzusznej. Uzyskane dane poddano analizie statystycznej, w której za poziom istotności przyjęto $p<0,05$.

Wyniki: Obie grupy, pielęgniarek i lekarzy, udzielały podobnych odpowiedzi na większość z zadawanych pytań. W wyniku analizy zauważono jednak rozbieżności w opinii. Stwierdzono, że pielęgniarki częściej (82,89%) pozytywnie wypowiadały się na temat wdrożenia rehabilitacji w okresie przedoperacyjnym, natomiast lekarze częściej (15,38%) udzielali odpowiedzi negującej. Pielęgniarki statystycznie częściej (78,95%), niż lekarze (50,00%) uznawały ćwiczenia postępowania z raną pooperacyjną za najistotniejsze. Personel

pielęgniarski statystycznie częściej (59,21%) niż lekarze (26,92%) wskazał na konieczność kontynuowania rehabilitacji w okresie ambulatoryjnym.

Wnioski: Rehabilitacja okołooperacyjna prowadzona u pacjentów po zabiegu TAB stanowi istotny element leczenia. Powinna zostać wdrożona już przed operacją i kontynuowana w etapie ambulatoryjnym, gdy chory opuści szpital. Zatrudnienie na oddziałach zabiegowych fizjoterapeuty w pełnym wymiarze godzin znaczenie ułatwiłoby realizację kompleksowego procesu rehabilitacji i znaczenie skróciłoby okres rekonwalescencji pacjenta po zabiegu.

Słowa klucze: opinia, personel medyczny, rehabilitacja okołooperacyjna, tętniak aorty brzusznej

Abstract

Introduction: Abdominal aortic aneurysm is an increasingly common anomaly.

As a result of the development of medicine, the number of previously diagnosed aortic aneurysms increases, which corresponds to increased survival of patients with this disease. In connection with the above, the number of patients requiring treatment of this disease increases, and thus the implementation of rehabilitation perioperative procedures.

Aim of the study: Analysis of the opinion of medical personnel on the role of perioperative rehabilitation in patients undergoing abdominal aortic aneurysm surgery and the indication of priorities in the procedure.

Materials and methods: The study was conducted using the diagnostic survey method using the original questionnaire. The study involved 102 people, including 76 male nurses (74,50%) and 26 doctors (24,49%) with an average age of 37.3 (± 9.4) years. The questionnaire contained questions in which the staff expressed their opinion on the role of perioperative rehabilitation in patients undergoing surgery for abdominal aortic aneurysm. The obtained data was subjected to statistical analysis, in which $p < 0.05$ was assumed as the level of significance.

Results: Both groups, nurses and doctors, gave similar answers to the majority

from asked questions. However, as a result of the analysis, discrepancies in opinion were noticed. It was found that nurses (82.89%) more often expressed their opinion on the implementation of rehabilitation in the pre-operative period, while doctors more often (15.38%) gave a negative answer. Nurses statistically more often (78.95%) than doctors

(50.00%) considered the exercises to deal with the surgical wound to be the most important. Nursing staff statistically more often (59.21%) than doctors (26.92%) pointed to the need to continue rehabilitation in the outpatient period.

Conclusions: Perioperative rehabilitation carried out in patients after TAB is an important element of treatment. It should be implemented already before the operation and continued at the outpatient stage, when the patient leaves the hospital. Employment at full-time physical therapist wards would facilitate the implementation of a comprehensive rehabilitation process and the significance would shorten the period of patient recovery after surgery.

Key words: opinion, medical staff, perioperative rehabilitation, abdominal aortic aneurysm

Introduction

Also known as the aorta artery and the main trunk of the arterial blood, the arterial blood of the branches lead to any tissue of the human body. It has a diameter of approx. 28 mm is the largest artery and human [1 - 2]. Damage / extension of the body may cause a high risk [3]. Aneurysm is called the widening of an artery by at least half its dimension with respect to the correct value [4]. The most common disorder that occurs in the episode infrarenal aorta. They are referred to the abdominal aorta aneurysm (abdominal aortic aneurysm - TAB). Patients experiencing non-specific symptoms, very often do not know they have an aneurysm and seek family medicine doctor suspected of another disease [5]. As a result of the development of medicine and dissemination of more specific methods of diagnosing an increasing number of early diagnosed aortic aneurysms in the abdominal stretch. Responds This increased survival of patients with this disease. Accordingly, early diagnosis is very important because it reduces the risk of the most dangerous complications of - rupture [6].

For small aneurysms with the use of conservative treatment, which is to control high blood pressure, lipid profile observation and monitoring of diseases that can significantly affect the health of the patient, eg. Heart disease or stroke [6]. In the case of aneurysms larger sizes or rapidly increasing its size, it is recommended that an operation which can be carried in one of three modes: urgency and scheduled [7].

Rupture of an aneurysm is a medical emergency, and therefore provides an indication of to perform emergency operations. Immediate operates a patient who has symptoms which are the basis for the diagnosis of symptomatic aneurysm [3]. Scheduled for surgery patients

eligible TAB than 4.5 cm in diameter for women and 5.5 for men cm [5]. Also takes into account factors that can negotiate deterioration and the consequent rupture of the aneurysm [6]. There are two methods for the treatment of abdominal aortic aneurysms. The first of them, called classical, is based on aneurysm resection and implantation of an artificial bypass graft. The second method is the implantation of an artificial vascular graft, so. the stent-graft. The treatment is performed by puncture of one or both femoral arteries and the external iliac. The prosthesis is introduced into the aorta under the control of the X-ray using a special frame [6 - 8].

Accordingly, an increasing number of patients needing treatment for this condition and thus implementation of perioperative rehabilitation. Performing elective hospitalization and on the eve of the start of the procedure allows you to start rehabilitation before the surgery. This reduces the risk of complications [9]. Rehabilitation after surgery should be implemented as early as possible to prevent the occurrence of complications resulting from hypokinesia, such as thromboembolic complications - embolic pneumonia. Physiotherapy is an integral part of the treatment in the surgical wards and should be carried out regardless of the reasons and methods of operation, and its extent. The obstacle should not be too patient's general condition. Rehabilitation in surgery wards as surgery takes into account the boundary that divides physiotherapy for a period of preoperative and postoperative. It is recommended to implement both the physiotherapy after elective surgery and emergency, in the case of elective recommended to carry out preoperative rehabilitation [9 - 12].

Nurse encouraging the patient to cooperate in the process of nurturing brings invaluable contribution to the rehabilitation of patients after surgery and secondary prevention of disability [11]. During the preoperative patient preparation for surgery is based on the execution of basic activities, and above all on education, the patient knowingly participated in the rehabilitation process and treatment. The nurse informs the patient of the limitations of which will have to face in the postoperative period [13]. The basic element of preparing the patient the surgery is physiotherapy, which includes physical activity: Exercise anticoagulants, breathing exercises, cough and effective learning proper breathing exercises [10]. Through their actions, it helps in becoming independent and activating the patient already in the first days after surgery. The tasks of the nurse is to support the patient in these activities, which the patient is not able to do yourself. This is a mobilization for him as soon as possible to obtain independence. The nurse should create conditions for the patient to perform self-service and lead his education in this field. The nurse then meets one of his professional function which is the function of rehabilitation. All These activities are aimed at

prevention of hypokinesia, the reduction or lack of physical activity. It is very dangerous, especially are exposed to her patients after surgery [13].

Objective of the work

Understanding medical opinion on the role of perioperative rehabilitation patients undergoing surgery of abdominal aortic aneurysm and an attempt to identify factors that affect the current state of the investigation.

Material and methods

The study included 102 people employed in therapeutic entities in Olsztyn, including 76 (77.5%) nurses / male nurses and 26 (26.5%) physicians. Respondents were informed about the purpose of the study, acquainted with their way of filling in the questionnaire, they had the opportunity to ask questions and to seek clarification. Everyone expressed their informed consent to participate in the study.

The test was performed by diagnostic survey questionnaire of their own design, which included a questionnaire items categorized and noncategorization and consisted of two parts. The first part included questions on basic socio-demographic data such as gender, age, occupation, place of employment and seniority in the profession. The second part of the questionnaire consisted of 21 questions concerning opinions on the staff of rehabilitation. For questions 3 respondents to suggest their own answers, and one in a descriptive way to answer the question. Respondents could express their opinion, among others, on the need for rehabilitation in the period before and after surgery, the field undertaken rehabilitation services and outside the hospital, the need to employ physical therapists in the surgical wards [7].

The collected empirical data were statistically analyzed using the Statistica PL 12.

For analysis of the results of statistical methods were used: measure the position and variability measures, chi-square test (χ^2) ANOVA Kruskal-Wallis test (H). By hypothesis testing the level of significance of $p < 0.05$.

Results

For the study group included 102 medical workers in the age group from 24 to 60 years, with a mean age of 37.3 ± 9.4 and median of 37.5 years. The age distribution of respondents was significantly different($\chi^2 = 10.43$; $p = 0.02$). In the age group 24 - 30 years was 35.5% (n

= 27) nurses, and physicians significantly less, only 15.4% (n = 4). The most numerous group constituted medical staff working in the branch vascular surgery (25%, n = 26). Seniority in the profession in the study group ranged from 1 year to 34 years, with a mean of 12.4 ± 9.2 years. As it turned out the average length of service in the medical profession was much higher than the in a nurse (14.2 ± 10.1 vs. 11.7 ± 8.9). Half of the respondents (50.0%; n = 51) worked in the profession from 1 year to 10 years. Distribution of seniority in the group of nurses and doctors were similar (χ^2= 0.24; p = 0.88).

The analysis of the data shows that 93.14% (n = 95) respondents indicated the correct definition of rehabilitation. In terms of therapy performed as part of a rehabilitation hospital 99.02% (n = 101) of respondents felt that the procedure should include the provision of rehabilitation preoperative and postoperative 87.25% (n = 89) claimed that provision should also include patient education and his family and 55.88% (n = 57) that in the framework of benefits should also be carried out psychological counseling. According to the respondents for admission to a hospital(Planned / urgent) affect the quality of the rehabilitation (86.27%; n = 88). Almost all subjects (96.08%; n = 98) member that occurring concomitant diseases in a patient undergoing surgery TAB affect the length of recovery after surgery. Most diseases are associated with heart failure (83.33%; n = 85), chronic obstructive pulmonary disease (57.84%; n = 59), and a state after stroke (51.96%; n = 53).To the question: "Do you / you think there is a need for preoperative patient rehabilitation *diagnosed with abdominal aortic aneurysm admitted to hospital elective? "*almost three quarters of respondents (70.59%; n =) indicated that it is necessary. However, the distribution of answers to this question in the occupational groups was significantly different(χ^2= 22.76; p = 0.00001). Nurses grant more than the doctors in the affirmative. In the case of the need for rehabilitation of the patient with preoperative diagnosis of abdominal aortic aneurysm most frequently proposed exercise by 71.57% (n = 73) of respondents learning should be an effective cough and breathing exercises. In the next step indicated in the stabilization of the surgical wound (61.76%; n = 63), step-passive exercise (42.16%; n = 43), learning movement (40.20%; n = 41) and teaching the correct walking pattern (38.24%; n = 39). Statistically significant differences in the responses of nurses and doctors have become apparent in the case of category breathing exercises(χ^2= 7.97; p = 0.004) and learning effective cough (χ^2= 7.97; p = 0.004). A high percentage of nurses (78.95%; n = 60) participated in the survey believed these exercises as the most important. While a group of doctors, every other pointed them in the first place as

important. In the case of other categories of exercises distribution of the response was similar. Detailed data are shown in Table 1.

Table 1. Opinions of respondents on the need for preoperative rehabilitation of the patient with a diagnosis of abdominal aortic aneurysm admitted to hospital elective

Categories exercise	Professional groups				Altogether		χ^2	*p*
	Nurse		Doctor					
	N	%	N	%	N	%		
Breathing exercises	60	78.95	13	50.00	73	71.57	7.97	0.004 ***
Learning effective cough	60	78.95	13	50.00	73	71.57	7.97	0.004 ***
Active Passive exercise -	35	46.05	8	30.77	43	42.16	1.85	0.17
Active exercises	28	36.84	7	26,92	35	34,31	0.84	0.35
Same assisted Exercises	20	26.32	5	19.23	25	24.51	0.52	0.46
Isometric exercise	29	38,16	7	26,92	36	35,29	1.07	0.3
Tilting passive and active	12	15,79	5	19.23	17	16.67	0.16	0.68
Science movement	32	42.11	9	34.62	41	40,20	0.45	0.5
Science normal walking pattern	31	40.79	8	30.77	39	38.24	0.82	0.36
Stabilization wound	50	65.79	13	50.00	63	61.76	2.04	0.15

Statistically significant: *** p <0.001; ** p <0.01; * P <0.05.

Explanation: N - number,χ^2 - compatibility test Chi-square P - level of significance

In the case of the need for rehabilitation in the immediate period TAB after the procedure most commonly proposed exercise by 98.04% (n = 100) of respondents should be breathing exercises, and by 85.29% (n = 87) of respondents learning effective cough and wound stabilization (77.45%; n = 79) . In the next step, respondents indicated exercise-passive (50.00%; n = 51), the study of movement (15.69%; n = 16), isometric exercise (11.76%; n = 12) and the verticalization step - passive indicated 9.80% (n = 10) surveyed.

Significant differences in the responses of nurses and doctors have become apparent in the categories of science exercise effective cough($P = 0.04;\chi^2= 4.09$) exercises same assisted ($P = 0.03;\chi^2= 4.69$) and in isometric exercise ($p = 0.0005;\chi^2= 12.14$). Doctors often pointed to the significance of such exercises as learning effective cough, exercise same assisted and isometric exercises. In the case of other categories of exercises distribution of answers of nurses and doctors was similar.

Table 2.The most important exercises in the rehabilitation in the immediate postoperative period in patients with abdominal aortic aneurysm diagnosed by the respondents

Categories exercise	Occupational group				Altogether		χ^2	*p*
	Nurse		Doctor					
	N	%	N	%	N	%		
Breathing exercises	74	97.37	26	100.00	100	98.04	0.69	0.4
Nuka effective cough	62	81.58	25	96.15	87	85.29	4.09	0.04 *
Active Passive exercise -	34	44.74	17	65.38	51	50.00	3.3	0.06
Active exercises	2	2.63	3	11.54	5	4.90	3.3	0.06
Same assisted Exercises	4	5.26	5	19.23	9	8.82	4.69	0.03 *
Isometric exercise	4	5.26	8	30.77	12	11.76	12.14	0.0005 ***
Tilting passive and active	7	9.21	3	11.54	10	9.80	0.11	0.73
Science movement	16	21.05	0	0.00	16	15.69	0.01	6.49
Science normal walking pattern	6	7.89	1	3.85	7	6.86	0.49	0.48
Stabilization wound	60	78.95	19	73.08	79	77.45	0.38	0.53

Statistically significant: *** p <0.001; ** p <0.01; * P <0.05.

Explanation: N- numbers, χ^2 - compatibility test Chi-square P - level of significance

Almost all respondents (95.10%; n = 97) indicated that patients who have had surgery within the abdominal cavity, which will be implemented at the rehabilitation program will become more independent in performing daily activities. Particularly drawn attention to the steps involved in the movement (93.14%; n = 95), personal hygiene (84.31%; n = 86) taking the meal (50.00%; n = 51) and meeting the needs of excretion (micturition defecation) (63.76%;n = 65). 47.06% (n = 48) of respondents claimed that patients under the psychological accept their illness and the resulting limit 46.08% (n = 47). That patients will possess the knowledge on the prevention of complications and will be applied to her.

In the next part examines the significance of the distinguished aspects of rehabilitation at a level of from 1 to 4, where 1 - is the most significant and least significant four. For each aspect of the highlighted rehabilitation counted arithmetic means (M) and standard deviation (SD).

Table 4. Mean and standard deviations for the highlighted aspects of the rehabilitation of the respondents

Which aspects of rehabilitation is by Ms / Mr most important?	Nurse		Doctor		Altogether	
	M	SD	M	SD	M	SD
The physical aspect - to improve mobility	1.8	0.94	1.8	0.97	1.8	0.94
Psychological aspect - acceptance condition after surgery	2.1	1.05	2.2	0.57	2.1	0.94
The social aspect - a return to social life	2.9	1.05	3.2	1.08	3.0	1.06
Education of the patient and his family	3.2	0.91	2.8	1.30	3.1	1.03

Explanations: M-mean SD standard deviation

The analysis can be concluded that the respondents the most important aspect of the rehabilitation is physical aspect - improving mobility (1.8) and the psychological aspect related to the acceptance of the operation state of (2,1). In the group of nurses Next, the social aspect of schedules - returning to social life (2,9), and patient education and family (3,2). However, for doctors seems to be more important aspect of patient and family education (2.8), followed by the social aspect – return social life (3.2)

Subsequently analyzed the opinion of the staff to hire a physiotherapist surgical ward full-time. 89.22% (n = 91), medical personnel claimed that a physical therapist should be employed in the treatment unit in a full-time basis. The main reasons for the employment of a physiotherapist surgical ward respondents considered providing comprehensive rehabilitation at each stage of treatment (37.25%; n = 38), and faster recovery after surgery (35.29%; n = 36). 14.71% (n = 15) indicated that this situation will facilitate access to the patient for rehabilitation. Viewpoints, however, was significantly different ($p = 0.03; \chi^2 = 8.57$). Nurses significantly more (42.11%; n = 32) indicated a faster recovery after surgery, and significantly more doctors (53.85%; n = 14) indicated the argument provide comprehensive rehabilitation at each stage of treatment.

Discussion

Rehabilitation in patients undergoing surgery, including TAB, should be implemented already in the preoperative period. This allows for proper physical and mental preparation of the patient to the period after the operation. The patient then has the knowledge and skills that are used in the postoperative period to reduce the risk of complications. It also has the opportunity to consider the benefits and risks arising from operations carried out. Below I will present an analysis of the work that your subjects are similar to those undertaken by the author. They exhibit identical the results of the author's conclusions. They pay particular attention to the positive aspects of the process implemented physiotherapy in patients undergoing surgery. The results of tests carried out by Letterstål et al., In patients undergoing surgery TAB show that the preoperative preparation of the patient is very important to [15]. As the researchers, patient awareness of operational risk and the consequences of not taking treatment, and provide mental support by medical personnel is a key element of treatment and care for the patient. As a priority in the provision of care should be considered implemented in the pre-operative education process.

In the opinion of the medical staff is considered essential for physical and mental preparation. Education is another position [14-15]. A study conducted by researchers from Nagoya University Graduate School of Medicine shows that not only take care of the patient physiotherapy after the surgery, but especially before surgery rehabilitation implemented in conjunction with the wider psychoeducation most benefit. For example, patients diagnosed with breast cancer treated with surgery demonstrated that psychoeducation made before surgery enhances the acceptance of the disease, can better cope with negative thinking and improves the mood of patients, which in turn allows for faster recovery [16].

On the nature of rehabilitation and its role in the treatment process also report the results of a study conducted by carded et al., Among women with suspected or diagnosed genital cancer. Each patient was subjected to surgery and perioperative care was covered by a comprehensive physical therapy. Women engaged in the subjective assessment of the impact of physiotherapy on return to fitness. The opinion of patients that helped implemented rehabilitation maintain physical fitness prior to surgery, or allowed its recovery. The study found that the type of surgery (laparotomy / laparoscopy) the impact on the possibility of taking physical activity by patients. Performing laparoscopic surgery allows early verticalization of patients (78.57% of the patients already plumb in the era of surgery). Allows This among other things, to minimize the risk of thrombo - embolism. Almost all respondents

(98%) showed improvement after being recommended exercises. All participants were identified that after the application of the rehabilitation process feel more confident physically. 94% of respondents said the continuation of training after leaving the hospital. This reflects the belief patients that conduct rehabilitation had a positive impact on improving their physical fitness [17].

The observations made by researchers from the Dutch Utrecht are also similar to the results of the author's work. Employees of the University Medical Center Utrecht reviewed the medical records of patients. The analysis found that preoperative rehabilitation can be carried out in order to reduce the incidence of postoperative complications and shorter hospital stay of patients after heart surgery and surgery in the abdomen. They determined that it is necessary to conduct further, broader study the usefulness of the pre-operative rehabilitation in order to confirm the long-term effects [18].

Another study similar to those discussed topics by the authors of the present study was conducted by researchers from Sao Paulo in Brazil. The study group consisted of patients undergoing surgery in the upper abdomen. In these patients in the postoperative period it was used by the researchers prepared a standardized rehabilitation program, which was focused in particular on eliminating the complications of the respiratory system - mainly the occurrence of lung atelectasis. The study revealed that implemented may reduce the risk of developing atelectasis and shorten the hospital stay of patients [19].

Conclusions

1. In the opinion of medical rehabilitation for patients after surgery TAB it is very important and the proceeding should be implemented already by the operation.
2. In surgical wards should be hired physiotherapist working full-time. This would greatly facilitate the return to fitness of patients and make it possible to provide comprehensive rehabilitation.
3. Staff pointed out that in determining the rehabilitation program for the patient in the perioperative period should pay special attention to the condition of the patient before surgery and present comorbidities.
4. In the proceedings both before and after surgery, particular attention should be paid to breathing exercises, exercises to assist in the removal of residual bronchial tree secretions, as well as dealing with post-operative wound.
5. In the opinion of the staff rehabilitation conducted in patients after surgery TAB key will become independent of the patient in the physical aspect.

6. Rehabilitation should be accompanied by the patient after surgery TAB in each stage of treatment. Not only during hospitalization, but also should be implemented during ambulatory after leaving the hospital.

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