Evaluation of total hip arthroplasty and comparing the effect of different types of anesthesia.

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ABSTRACT

This study aimed to Evaluation of total hip arthroplasty and comparing the effect of different types of anaesthesia
A survey was conducted in different Hospitals in Iraq, where 100 patients were collected to those who underwent hip replacement, and they were relied on regional and general anaesthesia.
the patients were distributed to 50 patients who underwent general anesthesia, including 40 male patients, ten women, and 50 patients who underwent regional anesthesia.
The most common complications of anaesthesia, especially in the case of elevated obstruction, are arterial hypotension and bradycardia due to the rapid development of sympathetic blockade. For this reason, in hip arthroplasty for spinal anesthesia, 0.5% elevated pressure or isobaric pressure is often used.

Keywords: Anaesthesia, PVD, total hip, BMI.

Introduction

Arthroplasty is a painful intervention, the implementation of which is accompanied by significant blood loss. The main danger that occurs in the postoperative period is venous thrombosis pulmonary embolism. Analgesia requirements - they must correspond to the nature of the surgical intervention
The arthroplasty was performed under general anesthesia or spinal anaesthesia [1,2,3].

Knee arthroplasty is performed according to the nature of the pathology Anesthesia is an integral part of anesthesia in arthroplasty and starts from the moment the patient enters the operating room and continues throughout the intervention period [4,5].
The risk of developing respiratory depression during intravenous administration of anesthesia is an argument for not using anesthesia and sometimes using nerve blocks, especially when replacing large joints [6,7].

Conventional general anesthesia does not interfere with the nociceptive stimulation of the central structures, and modern inhalational anesthetics create the illusion of adequate anesthesia during surgery as they only affect the proximal link in acute pain formation [8,9].
General anaesthesia with endotracheal intubation and mechanical ventilation is associated with increased blood loss, increased risk of postoperative thrombosis, and pulmonary embolism. Possible complications are due to the fact of endotracheal intubation and the use of muscle relaxants [10,11,12,13].
Infiltration anesthesia involves intraoperative injection of a large amount of local anesthetic into the joint tissues. Recently used in clinical practice. The disadvantages of the method are due to its specificity, as well as the need for sedative therapy and the introduction of narcotic analgesics after surgery. Common complications are dizziness, nausea, and blurred vision [14,15,16,17].
Complications in the form of hypotension are due to the simultaneous administration of a local anaesthetic, which is dictated by the algorithm for carrying out anaesthesia [18,19]. The large diffusion of the sympathetic mass is the result of this procedure
By reading recent studies related to this topic from 2000 to 2012, we find that the value of the meta-analysis to rates of blind veins is low compared to blood clots and pulmonary embolism after total hip arthroplasty using regional anesthesia compared to those performed under general anesthesia [20].

Material and method

Patient's sample

A survey was conducted in different Hospitals in Iraq, where 100 patients were collected to those who underwent hip replacement, and they were relied on regional and general anaesthesia.

Study design

By relying on the existing patient database in the hospital, which included patients who underwent hip replacement and referrals to
Or revisions of total hip arthroplasty in addition to the type of anesthesia used in this study, which included general anesthesia (spinal or epidural), age, body mass index, sex, as for the exclusion criteria that were based on in this study included ages that were less from 20 years and mechanical ventilation before surgery as local anesthesia
The patients were divided according to gender into 40 male patients and ten women for general anesthesia. As for epidural anesthesia, it was 35 male patients and 15 women. The statistical analysis program spss soft 20 was relied upon to evaluate and analyze the information and demographic characteristics of patients in this study. As for the figures, the program MS EXCEL 2013 was used

Study period

The study period was for a period of two years, from 4-2-2019 to 3-3-2021

Aim of research

This paper aims to Evaluation of total hip arthroplasty and comparing the effect of different types of anesthesia

Results

Table 1- mean SD for age of patients

Statistics			
		general	regional
N	Valid	50	50
	Missing	5	5
Mean		55.6000	49.4400
Median		60.0000	46.5000
Std. Deviation		12.45564	12.20097
Skewness		-.335	.586
Std. Error of Skewness		.337	.337
Minimum		30.00	30.00
Maximum		77.00	77.00
Percentiles	25	46.5000	40.0000
	50	60.0000	46.5000
	75	64.2500	60.0000

Table 2- classification of patients according to gender (general anaesthesia)

general * gender general Crosstabulation				
Count				
		Gender		Total
		f	m	
general	30.00	0	3	3
	39.00	0	3	3
	40.00	0	3	3
	45.00	0	3	3
	47.00	0	3	3
	49.00	0	2	2
	50.00	0	3	3
	55.00	1	2	3
	60.00	2	4	6
	61.00	1	2	3
	62.00	1	2	3
	64.00	1	2	3
	65.00	1	2	3
	69.00	1	2	3
	70.00	1	2	3
	77.00	1	2	3
Total		10	40	50

Table 3- classification of patients according to gender (regional anaesthesia)

regional * gender regional Crosstabulation				
Count				
		Gender regional		Total
		f	m	
regional	30.00	0	3	3
	33.00	0	1	1
	36.00	1	0	1
	39.00	1	4	5
	40.00	2	3	5
	42.00	1	0	1
	43.00	2	0	2
	44.00	1	0	1
	45.00	2	3	5
	46.00	1	0	1
	47.00	0	4	4
	49.00	0	1	1
	50.00	0	3	3
	55.00	0	3	3
	58.00	1	0	1
	60.00	0	2	2
	61.00	0	2	2
	62.00	0	2	2
	66.00	1	0	1
	69.00	1	0	1
	70.00	1	2	3
	77.00	0	2	2
Total		15	35	50

Figure 1- results of BMI

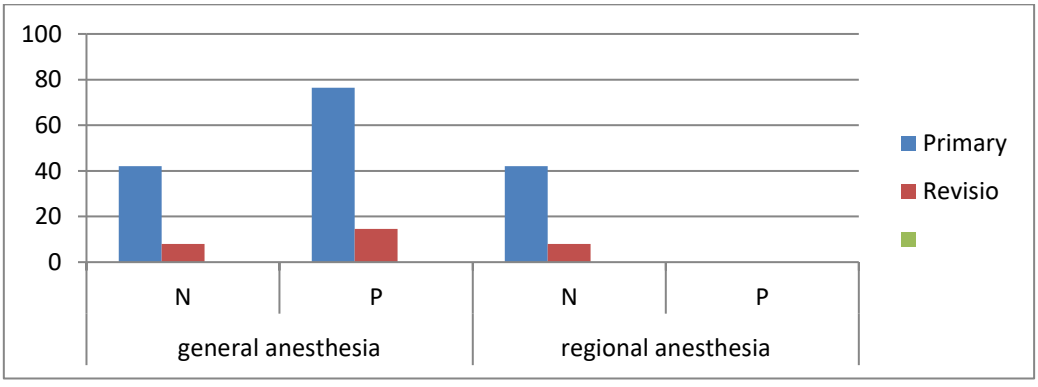

Figure 2- results of patient according to total hip replacement

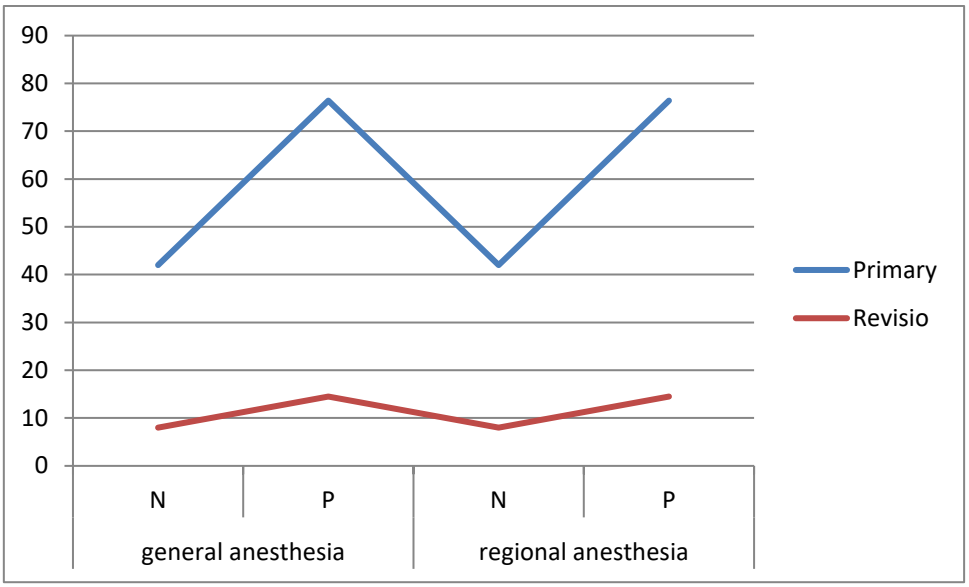

Figure 3- results of patient according to disease

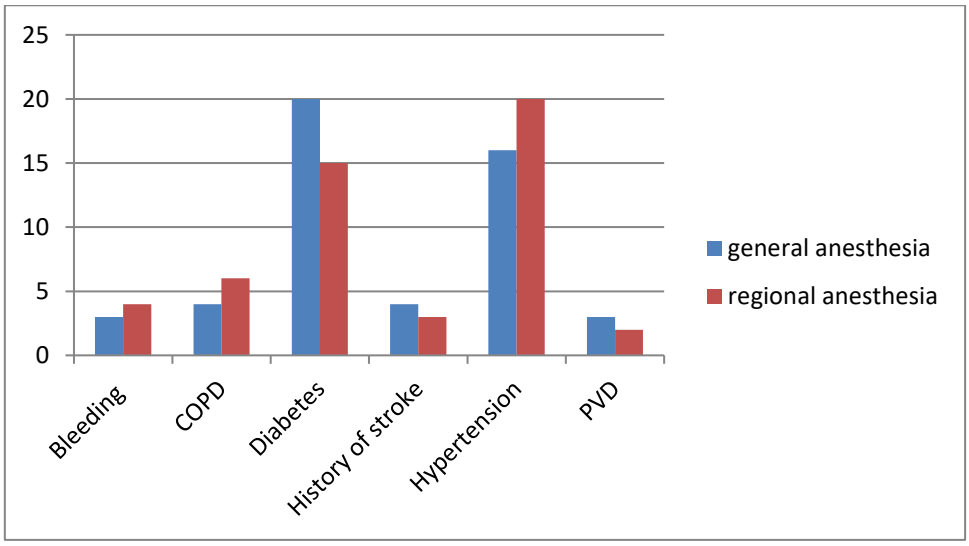

Figure 4- p-value of between types of anaesthesia

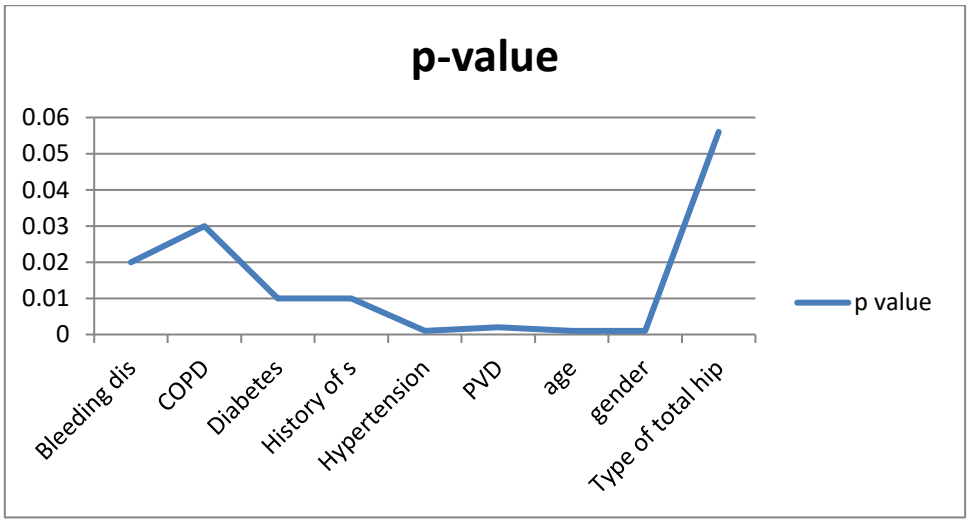

Table 4- results related to Before PSM

P		BEFORE	
		GENERAL	Regional
surgical infection	MEAN	59.5	10.8
	SD	0.56	0.16
STAY IN HOSPITAL	MEAN	3.56	3.11
	SD	2.1	1.11
Mortality	MEAN	1	0.9
	SD	0.6	0.1
Respiratory complications	MEAN	4.3	7.5
	SD	2.2	3.3

Table 6- results related to after PSM

P		After	
		GENERAL	Regional
surgical infection	MEAN	28.2	10.9
	SD	0.78	0.18
STAY IN HOSPITAL	MEAN	3.66	3.15
	SD	2.2	1.23
Mortality	MEAN	1	0.9
	SD	0.8	0.1
Respiratory complications	MEAN	2.5	3.2
	SD	1.1	0.9

Discussion

One hundred patients were collected from different Hospitals in Iraq, and the patients were distributed to 50 patients who underwent general anesthesia, including 40 male patients, ten women, and 50 patients who underwent regional anesthesia.

They were distributed to 35 male patients and 15 women. Through the use of spss statistical analysis, we find Mean value ±SD for age of

patients under general anesthesia 55.6000±12.45564.

As for the ages of patients who underwent regional anesthesia, it was 49.4400 ± 12.20097, as shown in Table 1.

The characteristics of the patients were studied on their results for a period of 38 days with regard to total hip arthroplasty, where the following diseases were identified: Bleeding disorders, COPD, Diabetes, Hypertension, PVD, and the results associated with surviving anesthesia were found to be good in terms of mortality, which was lower compared to the results related to general anesthesia, in addition to the length of stay in the hospital, which ranged from one to 5 days, and the length of stay in the hospital in relation to the results related to anesthesia The year ranged from 1 to 4 days.

As for the results of respiratory complications, no significant difference was observed between the two types of anesthesia used in this study

If the data observed here are reflective, though, emerging evidence shows that regional anesthesia was potentially underutilized during this study period (used for

Only 40% of total hip arthroplasties). The results reported here add credence to the notion that regional anesthesia is associated with reduced rates of infection at the site of deep surgery, and length of hospital stays, and postoperative morbidity compared with general anesthesia.

Conclusion

Hip prosthetics, especially revision, remains a painful intervention and, in some cases, is accompanied by significant blood loss. In the postoperative period, the greatest danger is venous thrombosis and pulmonary embolism. Therefore, anesthesia should correspond to the nature of this intervention.

Recommendation

1. Arthroplasty requires the use of large doses of narcotic analgesics, as well as often muscle relaxation. However, many people generally prefer anesthesia due to the possibility of sudden shifts in blood circulation, which can lead to serious complications.
2. Many anesthesiologists prefer a simpler, faster, and more effective method of spinal anesthesia during arthroplasty, especially when using low molecular weight heparin in the perioperative period.

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