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## Acquaintance of Patients with the Aims of Pre-Operative Anesthesia Evaluation Clinics

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### ABSTRACT

**Background:** Anesthesia is peri-operative medicine. The role of anesthesiologist in the quality of care rendered to patients during the pre-operative period is well known. The role of pre-operative anesthesia clinics in providing better conditions for patients undergoing anesthesia is now well documented. This study was performed to evaluate the familiarity of Iranian patients with the aims of anesthesia clinics 10 years after the establishment of such clinics in Iran.

**Materials and Methods:** All patients referred to anesthesia clinics in two university medical centers were evaluated during a 2-week period. A questionnaire was given to them and answers were analyzed and interpreted by statistical methods.

**Results:** Of the 286 patients who participated in this study, 56% were males and 44% were females; 43% of them were familiar with the goals of pre-op anesthesia, 83% of the patients mentioned that pre-op evaluation was the reason of their referral and 67% gave a positive feed-back on the clinic.

The need for creating more motivation in patients and physicians was mentioned by 83% of the patients.

**Conclusion:** Considering the statistical results, it seems that there is a great need to familiarize patients with the goals of these clinics and to create some motivation in them. By doing so, we can hope to offer better services to patients and reduce the anesthesia complications and anxiety. (*Tanaffos* 2007; 6(2): 56-62)

**Key words:** Anesthesia clinic, Patients, Complications

### INTRODUCTION

Anesthesia is a great adjunct to the medical profession especially surgery. Before the era of contemporary anesthesia, surgical procedures were limited and primitive. Anesthesia can be defined as a gradual decrease of central nervous system function

or as a situation where physiological systems supporting the body are under external regulation by the function of chemicals (1).

However, considering the abovementioned definitions, anesthesia is a kind of change in the normal status of body systems preparing them to tolerate stress of surgical operations.

At present, anesthesia is categorized into two main categories: general anesthesia and local

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anesthesia. Each are divided into several subgroups. Volatile induction and maintenance anesthesia (VIMA), total intravenous anesthesia (TIVA) and balanced anesthesia (BA) are subgroups of general anesthesia while peripheral nerve blocks, intravenous regional blocks, cryoanalgesia and methods such as acupuncture are subgroups of local anesthesia.

As the science of anesthesia evolves, the number of anesthesiologists in the world increases and new contemporary methods of analgesia, new medications and new technology for patient care are created. Several subspecialties have emerged from this field each converting into a main field. Pre- and post-operative care, intensive care, acute and chronic pain relief, medical emergencies, toxicity treatment, resuscitation etc. are among the contemporary fields of anesthesia. Creation and development of these fields are the reasons why anesthesia is called "perioperative medicine"(3).

However, there lies an uncoordination between the present health status of patients and their optimal medical status which is a big obstacle in anesthetic management of patients. There was a time when no visits or examination of patients would be performed by the anesthesiologists in the pre-operative period and therefore, a high rate of mortality and considerable morbidity were seen among patients. Many surgical procedures were cancelled every day because the patients were not prepared for surgery. This resulted in establishment of anesthetic visits and examinations in most parts of the world. As a general rule, all patients had to be visited by the anesthesiologist the night before the operation. The anesthesiologist would give necessary orders and sometimes premedications to prepare the patients for surgical operation. But, this method had its own difficulties (3, 4, 5), because many of the underlying diseases were not detectable the night before the operation and if diagnosed, there was not enough

time to refer them to the pertinent specialist. Therefore, the idea of pre-operative anesthesia evaluation clinics arose. In these clinics, patients are thoroughly evaluated and referred to the pertinent specialist if required for treatment of their underlying diseases. They achieve the best possible preparation for surgery and at the same time, the anesthesiologist evaluates the type of anesthesia required, probable complications, and the need for special care for the patient. The aim of such care is to create an optimal physiologic status for the patients so that they can tolerate the stress of surgical operations with minimal complications. The valuable role of anesthesiologist as the coordinator of pre-operative evaluations, in referral of patients to physicians and in special cases prescribing necessary medications is well recognized.

Anesthesiologists always believe that their lack of knowledge regarding the patients' status considerably affects anesthesia management. Absence of knowledge regarding the patient's status, presence of unknown underlying diseases, mental status and stresses could have a negative effect on the method of anesthesia increasing the risk of unwanted events in patients during or after anesthesia.

From the patients' point of view, they are usually unaware of the process of anesthesia, its duration, period of time it takes to reach consciousness and its probable complications. All these factors can significantly increase their stress during the peri-operative period (6).

From the medical and economical point of view, not preparing the patient for the surgical procedure results in prolonged hospitalization and repeated postponement of the surgical operation. Also, by requesting consultation, routine and sometimes unnecessary tests impose an excess financial burden on both the patient and health system.

Considering the above facts, anesthesia clinics have been established in most countries throughout

the world (7).

The routine process in such clinics is as follows: The patient is visited by the physician. The physician diagnoses him/ her as a candidate for surgery and then refers him/her to the anesthesia clinic. In the clinic, after initial evaluation and interview by the anesthesiologist, the conditions of the operation and anesthesia are explained to the patient.

If the patient has no underlying disease and no contraindication for surgery in terms of anesthesia, the necessary procedures will be recorded in the patients medical file according to the approved protocols and the necessary orders will be given to prepare the patient for anesthesia. Also, proper pre-medications will be prescribed for him/her and a written consent for operation will be obtained. If the patient with an underlying disease is not ready for surgical operation, consultation with related specialists will be requested by the anesthesiologist, and when the patient reaches optimal conditions for anesthesia, he/she is visited again by the anesthesiologist who gives the permit to proceed with anesthesia as usual. The aforementioned process has had a great success. Its role in betterment of the operation and reducing complications has repeatedly been emphasized (8).

One of the main goals of establishment of such clinics, is to create a mutual cooperation between the patient and the anesthesiologist, to familiarize the patient with methods of anesthesia and decrease his/ her anxiety. Also, a favorable relationship between the anesthesiologists and other physicians (surgeons, and different medical and para-clinical specialists) provides a better coordination in meeting the optimal conditions for surgery in patients (9).

Although it has been several years since the establishment of anesthesia clinics in Iran, it seems that no accurate data is available regarding the familiarity of Iranian patients with the goals of such

clinics, cooperation of physicians with these clinics and success rates in achieving their goals. It is believed that if both the patient and the physician are acquainted with the goals of such clinics, these clinics will be successful in achieving their goals. Therefore, a three-stage study was conducted to evaluate these clinics and the familiarity of patients and physicians with their goals.

## **MATERIALS AND METHODS**

This descriptive prospective study was conducted by using questionnaires to obtain data from patients of one of the anesthesia clinics of Shaheed Beheshti University during a two- week period. Questionnaires were given to all patients presenting to the clinic. The general goal of this study was thoroughly explained to patients. The questionnaire was comprised of positive and negative questions in a way that just answering a specific question was not indicative of the patient's acquaintance with the aim behind that certain question. Data obtained from the questionnaires were collected by a team of trained personnel and analyzed by using SPSS and statistical methods.

Medical ethics were considered in all situations and questionnaires were prepared privately. There was no obligation in filling out the questionnaires. Patients' name and medical problems were kept confidential and no alteration was performed in patients' treatment course.

## **RESULTS**

In a 2-week period, 286 patients were questioned. They were all given questionnaires comprised of positive and negative questions regarding referral to the clinic, why it is required and its efficacy.

Five patients were excluded from the study for not returning the questionnaire or giving an incomplete answer sheet and 281 questionnaires were evaluated and analyzed (Table 1).

**Table 1.** Age groups and frequency distribution of the patients.

| Age group (yrs) | Frequency | Valid Percentage | Accumulative percentage |
|-----------------|-----------|------------------|-------------------------|
| 0-10            | 5         | 1.8              | 1.8                     |
| 11-20           | 22        | 7.8              | 9.6                     |
| 21-30           | 26        | 9.3              | 18.9                    |
| 31-40           | 30        | 10.7             | 29.5                    |
| 41-50           | 40        | 14.2             | 43.8                    |
| 51-60           | 44        | 15.7             | 59.4                    |
| 61-70           | 59        | 21.0             | 80.4                    |
| 71 +            | 55        | 19.6             | 100                     |
| Total           | 281       | 100              | -                       |
| No response     | 5         | -                | -                       |

The mean age of the patients was 51.5 yrs with a median of 54 yrs, 56% of patients were males, 76% were married, 45% were residing in Tehran, 13.5% in center of provinces and 41.5% in other cities. Of patients 57.3% had no familiarity with such clinics. Chi-square test with  $X^2=16.63$  and  $df=2$  and  $p=0.000$  indicated that patients' place of residence correlated with their referral to such clinics and patients who were not residing in Tehran had less familiarity with these clinics (3/4 had no previous familiarity versus 1/2 of Tehran residents). The reason might be the absence of establishments and lack of advertisement of such clinics in many small cities all over the country.

Explaining the goals of these clinics to the patients has had a significant effect on their presentation to these clinics (Fisher's test  $p=0.000$ ). Also, 58% of patients stated that the objectives of presenting to such clinics have been explained to them (Table 2).

**Table 2.** Familiarity of patients with the goals of anesthesia clinics

| Familiarity with Goals | Frequency | Percentage | Valid Percentage |
|------------------------|-----------|------------|------------------|
| Yes                    | 159       | 55.6       | 58               |
| No                     | 115       | 40.2       | 42               |
| Total                  | 274       | 95.8       | 100              |
| No response            | 12        | 4.2        | -                |
| Total                  | 286       | 100        | -                |

On the other hand, previous referral of patients to these clinics did not make the patients believe that the clinic is successful in achieving its goals (Fisher's exact test  $p=0.0543$ ). However, 90% of patients believed that the clinics are successful in achieving their goals. The aim of referring to such clinics was pre-operative examinations in 83%, determining the type of anesthesia in 65.1%, evaluation of patient's medical history in 60% and assessment of drug allergy in 54% of the patients (Table 3).

**Table 3.** The reasons for referring to anesthesia clinics from the patients' point of view.

| Reason of admission                                   | Frequency of selected phrases | % of answer | Percentage of those responded |
|---|-------------------------------|-------------|-------------------------------|
| Preoperative examination                              | 233                           | 16.1        | 82.9                          |
| Determining the method of anesthesia                  | 183                           | 12.6        | 65.1                          |
| Evaluation of patients' medical history               | 166                           | 11.5        | 59.1                          |
| Evaluation of drug allergy                            | 152                           | 10.5        | 54.1                          |
| Interview with patient                                | 127                           | 8.8         | 45.2                          |
| Evaluation and elimination of factors causing anxiety | 116                           | 8.0         | 41.3                          |
| Patients' referral                                    | 115                           | 7.9         | 40.9                          |
| Scheduling for operation                              | 111                           | 7.7         | 39.5                          |
| Treatment of underlying diseases                      | 103                           | 7.1         | 36.7                          |
| Drug prescription                                     | 79                            | 5.5         | 28.1                          |
| Drug testing  | 63                            | 4.4         | 22.4                          |
| Total   | 1448                          | 100         | 515.3                         |

About 6% of patients stated that the behavior of clinic's personnel was unsatisfactory and 61% mentioned that the period of time spent in the clinic was too long; however in general, 67% believed that referring to such clinics was necessary.

## DISCUSSION

The necessity of preoperative evaluation of patients with the aims of familiarizing them with

their disease conditions, explaining peri and post operative complications to decrease their anxiety and preparing them for stressful surgery and to help them reach the best health status to tolerate surgery is nothing new (1-5).

Not long ago, patients were visited the night before the operation and pre medication drugs were given to them to make them calm and relaxed. This was however inefficient considering the rate of unprepared patients, their anxiety and stress and improper control of underlying diseases at the time of surgery. When the patient is not ready for surgery increased rate of peri and post anesthesia complications and inability to control them will result.

Therefore, anesthesia clinics were established so anesthesiologists can have a face to face interview with patients and reach the aforementioned goals. The first problem is that the patient has no knowledge regarding the operation, anesthesia or the anesthesiologist. In 1994, Wetchler published a letter in which he explained this lack of knowledge and related problems. (6) This issue was solved by talking to the patients and creating motivation, calmness and better mental status in them. Thus, they could better handle the operation and anesthesia.

Another important issue was to prepare patients physically with regard to underlying diseases. Surgeons in most cases usually focus just on the site of the operation and disregard other probable diseases in other parts of the body and notice them only when the patient is in the operating room. In contrast sometimes we encounter cases for which so many tests and radiographies were requested during the preoperative period most being unnecessary or even harmful, imposing an excess financial burden on the patients and health system. There have been a large number of articles regarding the positive effects of such clinics on improving the patient's health status and decreasing the risk of surgical

complications. Van Kiel and colleagues (8) in 2001 explained the positive effects of these clinics in Netherlands. All studies in this regard reached a consensus admitting to the benefits of anesthesia clinics in the pre-operative period and strong influence on the preoperative health status of patients.

Establishment of anesthesia clinics has been considered in Iran a few years ago. These clinics have been established now in many centers (10-13).

As we mentioned earlier, the importance of anesthesia clinics in improving the outcome of surgical procedures, reducing the costs, avoiding the unwanted cancellation of operations and improving the health status of patients in the preoperative period is well known. Also, adequate knowledge of patients in this regard can affect their referral and follow-up of the process of evaluation in the clinic. This study showed that Iranian patients did not have adequate knowledge about anesthesia clinics, process of evaluations, or even anesthesia itself. It may explain why in a medical center that has had anesthesia clinic for many years, only 43% of patients had previous admissions to this clinic, and in other medical centers this rate might be even lower (an independent study is required in this regard in other medical centers). Another issue to be considered is the advertisements regarding the goals of such clinics. According to the results of this study, only 58% of patients were familiar with the goals of these clinics. The remaining were acquainted neither with the goals of clinic nor with the process of evaluations and this can have a negative impact on patients' motivation in referring to such clinics.

It is noteworthy that 90% of those referring to these clinics believed that the clinics were successful in achieving their goals, while 67% believed that admission to anesthesia clinic is necessary. These figures indicate that in spite of the patients' lack of knowledge regarding these clinics and their targets,

the necessity of presence of such clinics is well known. Many patients are afraid of anesthesia and their lack of knowledge regarding its process increases their fear. Presence of a clinic that can help in preparing patients for surgery and anesthesia can considerably decrease their anxiety and stress.

There is no question about the need of having these clinics and we have to improve the process of patients' evaluation in these clinics. The below mentioned points should be considered in this regard.

- a) The first issue is to explain the goals of these clinics to the patients. The authorities in the field of medicine have not adequately introduced this field to people as well. Therefore, introducing the goals of the clinic, explaining the methods of anesthesia and advantages of preoperative preparation are a matter of importance. In this regard, the role of surgeons in different fields of surgery is very important; because as the one who refers the patients to the anesthesia clinic, they have the responsibility to familiarize patients with anesthesia. Secondly, the anesthesiologists should be aware of the importance of advertising these clinics and to expand the field of activity of such clinics. Also, seminars, medical congresses, newspapers, medical journals and mass media should try to explain the anesthesia and goals of these clinics to the community.
- b) The most important factor guaranteeing the continuation of these clinics is their clinical role in decreasing the complications of anesthesia and surgery, reducing the costs, reducing the cancellation rate and improving the clinical status of patients in the peri-operative period. Frequent periodical reports regarding the activity of these clinics along with precise statistics can help in enlightenment of the public and medical community.
- c) The communication of physicians and anesthesia clinic personnel with patients and reducing time

in the process of evaluation and improving the patients' status qualitatively and quantitatively through proper approach can have a significant role in attracting them to the clinic and creating interest and motivation.

- d) Since this study was conducted in a specific center during a specific period of time, similar but more complete studies are recommended to obtain more accurate results in other medical centers.

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