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The importance of blood evaluation before donation

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ABSTRACT
The article is a bibliographic review with the title of: The Importance of Blood Evaluation Before Donation, aiming to show the whole process and how safe it is, showing the need for donor collaboration. Because it is a bibliographic review, it was not done in a practical way, but the research part of articles, magazine and books, always verifying the veracity and reliability of the materials used in its preparation. Development: it has the history of blood donation, all stages of the processes, questionnaires, screening, serological tests, importance of screening, the importance of training professionals, and the resolutions that control that helps ensure that this blood is safe for the patient who will receive and the process is also safe for the donor. In addition to the importance of blood donation, the loyalty and awareness of those who donate when going through the screening, also having classification for the types of donors. Concluding that it is a procedure in which it needs the collaboration of all, ethical and of paramount importance, besides that all the analysis is done with great care to ensure the safety of both what is donating and what will receive.

Keywords: Blood Donation, Triage, Serological examination.

1 INTRODUCTION

The evaluation of the blood before the donation is extremely important to avoid the possibility of diseases, contamination, protecting the patient who had received that is already debilitated and also what is donating that often did not even know about the disease and ends up discovering. Being thus made a screening before donating and even after the donation is made an analysis so that only after the analysis the blood is donated.

Before checking weight, height, blood glucose, pressure, beats, to check if it is ok, then it is passed to the social service where questionnaires are made about vaccines, sex life, health and only then passes donate the blood, even after taking the blood is delivered the paper in which you confirm or deny if it was true with the answers or missing with the truth, And it is also done blood tests to only after going through all these steps reach the patient who needs it.

In addition to having the problem that happens many people omit or lie information out of shame or think or unnecessary thus harming the fidelity of the result, at the stage of the questionnaire is impaired, running the risk of the donated blood not being able to donate, seeing this see necessary to also analyze the blood. So that it sees ensuring total safety and zero risk of transmitting a disease when performing the transfusion, in addition to that the donor may have been contaminated with some disease and not know.

Seeing all this, it is necessary to clearly show the importance of this analysis, resolving all doubts, passes awareness also about the security that existed and also reduce the fears and myths about the blood that is donated and received, also showing in a summarized and clear way the process of advancement, in the process of blood donation, bringing more and more security, with its technologies, scientific advances and always making it clear that it is a process in which it is constantly evolving, thus always seeking the best to ensure the optimization and reduction of risks.

Having as motivation for the study to show how safe the process is and how important the collaboration to facilitate. Having as central objective to show the importance of the analysis of the donated blood, being necessary knowledge in the area of analysis, hematology and immunology for the construction of this article, besides showing the whole process. And it also shows some resolutions that I enforce to ensure a rigorous and reliable process.

2 DEVELOPMENT

The history of blood transfusion in the world is divided into two phases: one, empirical, which goes until 1900, and another, scientific that begins from then on, with the discovery of the ABO system, by Landsteiner, in 1900, transfusions were made with more success. In Brazil, the first blood transfusion was performed, using the Agote device, improvised by Garcez Fróes, transfusing the donor's blood to a patient operated on for uterine polyp with significant metrorrhagia. (7)

After several decades after the discovery of the ABO system, the Rh factor was discovered, followed by other findings of anticoagulants, by scientists such as Loitt and Mollison, establishing a milestone in the creation of blood banks. And among the factors that helped the enormous development of transfusion medicine in the twentieth century stand out the two great world wars, the wars of Korea and Vietnam, and the post-epidemic of Acquired Immunodeficiency Syndrome. In the beginning, donors were paid and highly selected, which is one of the causes of low blood donation; Another problem was the lack of donors, leading public services to require blood donation to admit patients or to perform blood collections in prisons. Private blood banks, in turn, resorted to paid donation in capitals and medium-sized cities, thus creating a profession - that of the gratified donor(7).

The clinical and epidemiological distinction of blood donors means the beginner, and supposedly the primordial, stage in the scope of transfusion safety. Seeking voluntary, benevolent, altruistic and habitual donors is a task for hemotherapy services around the world. Studies have shown that improvements in the profile of blood donors interfered precisely in the quality and safety of the units collected. It is identified, as an indicator of the quality of the blood units collected, the impediment of paid blood donation from the 80's onwards. (10)

With the origin of the Screening and Counseling Centers (CTA), the demand in research the donation as a way to have results of examinations is inclined disappears. As for the motivation for

blood donation, the donor can be identified as: spontaneous, replacement, summoned and autologous. No form of restraint should be used to influence bestowal. The spontaneous and habitual donor is the most coveted and, consequently, the one with the highest probability of promoting better transfusion safety. Serological screening The serological tests to be enjoyed for the screening of the collected units should have high sensitivity and, when appropriate, high specificity. By identifying the lack of introduction of a new test in serological screening, it should have ensured the vacancy of acquisition in the market, registration in the Ministry of Health, equipment and essential training. There is still no available serological test with 100% sensitivity and specificity in the world market. (12)

One of the difficulties of health institutions is to conserve blood collection, since donors represent only 1.8% of the Brazilian population. It is of paramount importance the role of the nursing professional in the awareness, capture and screening of voluntary donors (1). A problem of worldwide interest, even today, is the granting of blood, since this is an element of extreme relevance to the human body. Blood centers face problems in preserving the ideal collection of this substance, which can endanger the life and health of patients who need the donation(2). This lack of donors and high rates of clinical and serological unfitness for donation can end up in a deficit in blood stocks, causing adverse consequences for individuals and public health. Therefore, it is of fundamental importance to stimulate blood donation in various ways, either by the loyalty of donors or by the permanent mobilization of the population (3).

All candidates for donation are submitted to an individual, confidential and confidential interview, with the use of accessible language and understandable terms, under medical supervision, in order to evaluate the clinical history and the current state of health, so that the blood collection is carried out in those candidates considered fit, without the procedure causing harm to donors or those awaiting blood transfusion. The candidates approved in the clinical screening, who understood the explanations provided by the triagist and who are in agreement with the performance of the procedure from the signing of a Term of Free and Informed Consent (ICF), confirming this understanding, agreement and commitment to the truth of the answers of the questionnaire, are sent to the hematological screening and, then to blood donation. Records of interviews are kept on file according to specific legislation. (5)

It is also up to the triagist to check the candidate for his general appearance, behavior and reactions; regarding the existence of cutaneous and mucosal pallor, suggestive of anemia, yellowish skin and sclera, indicative of jaundice; hyperemic conjunctivae, uncertain walking, disjointed or meaningless speech and characteristic breath, which may indicate consumption of alcohol or other drugs; swollen facies, suggestive of chronic alcoholism; unconvincing speech, which may indicate omission of information or embarrassment in giving the requested answers. After the interview and the clinical examination, carried out in sequence, the candidate for blood donation is informed of the

result of the selection process – fit or unfit – so that those who are considered unfit receive clear information of the reason for the refusal and the time they must wait for return. It is noteworthy that in the situations informed, the candidates are referred for specialized medical evaluation, when necessary. (5)

Therefore, it is essential for the triagist physician to place, with the candidates, a relationship of empathy that contributes to an environment of trust and credibility, without the existence of prejudices and/or biased judgments. In addition, the donor receives additional information regarding the care to be followed during and after the donation, being informed of possible adverse reactions, as well as being instructed about the possibility of self-exclusion from the donation process in situations where he does not consider the use of his blood safe. (5)

Self-exclusion occurs from the donor's information, by filling out the confidential vote after blood donation, requesting that their blood not be used. In this way, the collected bag is discarded. Unfit candidates are oriented, according to their ineptitude, as to the period they should wait for return, as to the clinical guidelines to be followed and, when necessary, referred to specialized follow-up in the reference services. (5)

The lack of medical knowledge in hemotherapy can reduce transfusion safety and cause significant harm to the patient. Thus, competent action becomes an essential requirement in transfusion medicine, avoiding possible damages and transfusion reactions Given that transfusions are becoming increasingly important as a therapy today and are not risk-free procedures, it is necessary to take a close look not only at transfusion safety. (4)

The circumstances of the transfused blood, whose extraction begins from the apprehensions of candidates for blood donation, as well as understanding the origin and destination of the blood collected, in order to increase security. The following sectors constitute the blood cycle: donor capture and awareness, clinical screening, hematological screening, blood collection, fractionation and distribution. Also part of the blood center are the apheresis sector, which performs the individualized collection of blood components, the donor medical care service (SAMD), which assists the unfit serological donor, and the outpatient clinic, where blood transfusions and specialized monitoring of patients with sickle cell anemia and coagulation disorders are performed. (4)

To achieve safety of blood products to be used in transfusions, strict quality parameters must be used. Transfusion safety is understood as the set of quantitative and qualitative measures followed that seek a lower danger to blood donors and recipients, in addition to ensuring that strategic blood stocks are organized to meet the transfusion need. Despite all the growth in the search for transfusion safety, "there is no transfusion without risks." (8) Hence the hardness of faithfully complying with the hemotherapy cycle whose development begins with the reach and selection of donors, followed by

serological and immunohematological screening, processing and fractionation of the units collected, dispensing, transfusion and post-transfusion evaluation. (9)

The transfer of infectious-contagious agents, through blood transfusion, in blood components and blood products, points to the late opposite reaction of greater periogo to the blood receptor. Synthesize the rates of disease transmission by transfusion in a precise way that can ensure the credibility of the blood that will be transfused. However suspension of doing justice, society becomes tolerant without bothering to argue these problems. Ethics are suppressed by forgetting discussion. Donating blood is an ethical act, taking into question that the donor should be free to choose and have the notion of the consequences in relation to him and the recipient. For this, the health professional must have all the necessary information to the donor; therefore, the SD is an artifice that violates the ethical principles of the human being. (6)

The Brazilian guidelines that control that every donation is a rigorous clinical-epidemiological screening of candidates for donation. Through trained professionals, clinical screening is done by tracking the recognition of signs and symptoms of diseases in candidates for donation that may cause danger to themselves or to the recipient. Once the reaction to the screened diseases is proven, the donor is directed to the referral services for specific care in each pathology. The main characteristic of donors with reactive serology is to be affected by chronic and asymptomatic disease, often making it impossible to exclude them in the clinical screening phase. Another key factor in the epidemiological analysis of candidates for donation is the exclusion, in clinical screening, of data seen as intimate "(number of sexual partners, use of illicit drugs, among others)". (10)

In view of the chances of elimination, through the donors, of some situation of danger, the vote of self-elimination was adopted in which the person can eliminate his donation from the transfusion purpose. In the same way, the donor must be guided by the dimension of the confidence of his answers and his obligation on them. The donor's unexplained desire to seek the hemotherapy service in order to donate may signal personal causes, endangering the entire safety process. In the 80s and 90s, with the emergence of AIDS, people sought blood donation for the execution of serological tests anonymously. With the creation of the Screening and Counseling Centers (CTA), the need to seek donation as a means of obtaining test results tends to disappear. (10)

As for the purpose for blood donation, the donor can be identified as: spontaneous, replacement, summoned and autologous. No form of coercion should be used to induce donation. The spontaneous and habitual donor is the most desired and, consequently, the one most likely to promote better transfusion safety. (11) The serological tests to be used for the screening of the collected units should have high sensitivity and, when possible, high specificity. When identifying the need for the introduction of a new test in serological screening, it should be ensured the availability of acquisition in the market, registration with the Ministry of Health, equipment and necessary training. There is still

no available serological test with 100% sensitivity and specificity in the world market. The high sensitivity of the tests, required for use in hemotherapy services in laboratory selection, aims to increase safety for the recipient. However, the high sensitivity with low specificity leads to false-positive results, which can bring serious consequences to blood donors who will have to deal with the stigma of a supposedly reactive test, until the diagnosis is clarified. (12)

For hemotherapy services this results in the elimination of bags and blood waste. The so-called first generation tests, in which the antigen is obtained through the lysate of the pathogen, Used mainly in the last decades of 80/90, caused great emotional damage in false positive donors and a high cost for hemotherapy services, with the disposal of bags with suspected infection. In the last 30 years, new serological screening tests have been introduced, as pathogens were identified and reagents made available. Currently, the Enzyme Linked Immunosorbent Assay (Elisa) method is the most used in hemotherapy services, as it allows good reproducibility, easy execution and possibility of automation. (12)

The second- and third-generation Elisa tests use recombinant antigens and synthetic peptides, respectively. "Other types of tests are also done in screening blood donors, such as hemagglutination (HA), particle agglutination (PA) and chemiluminescence." The use of nucleic acid amplification and detection tests (NAT) is valuable for the confirmation of indeterminate reactions in serological screening tests, due to the high sensitivity and specificity they show. (12)

In Brazil there is extensive education regarding donor uptake, processing, recruitment and use of blood, blood components and blood products. Especially, in need of the inspection of diseases with a chance of transmission through blood transfusion, however Brazil has several strict regulatory and inspection guidelines to ensure the quality of the sengue and minimize the risk of contamination. (13)

– The Federal Constitution / 1988, in articles 197 and 199, confers on the public power the regulation, supervision and control of actions corresponding to the use of blood products, and the prevention of blood trade, in any aspect, throughout the national territory, mutually. – Decree No. 95,721/1988, which determines Law No. 7,649/1988, stipulates the imposition of the registration of blood donors, as well as the performance of laboratory tests on the blood collected, intending to prevent the increase of diseases. – Law 10.205/2001 determines the National Blood Policy and its obligations, validates the sale and regulates paragraph 4 of article 199 of the Federal Constitution. (13)

– Ordinance No. 1,840 / September 1996, of the Ministry of Health, launches the National Program for External Quality Control in Serology (PNCQES) – Ordinance No. 1,376 / November 1993, of the Ministry of Health, recognizes the changes in Ordinance 721 / GM, of 09.08.1989, which determines technical standards for collection, processing and transfusion of blood, components and blood products, requiring the determination of ABO, Rh(D), weak D antigen (Du) and tests to identify

hepatitis B and C, Chagas disease, syphilis, AIDS, anti-HTLV I/II and anti-HBc antibodies. It also orders the performance of tests for elimnation of malaria, sickling and abnormal hemoglobins. (13)

– Resolution No. 343/2002, of the Ministry of Health, agrees with the requirement of high-sensitivity laboratory tests in all donations, to discover blood-borne diseases, in addition to requiring that: "These tests must be performed on a sample taken from the day to be tested with diagnostic set ("kits") indicated in the National Health Surveillance Agency (Anvisa), in specialized laboratories for such a purpose. It is forbidden to test in a "pool" of blood samples. If new technologies arise that have use attested by Anvisa for use in "pool", this impediment will be network form anonymous. (13)

3 CONCLUSION

To conclude that it is of utmost importance each process in which the donor goes through until he can donate, that the coloration of the candidate for blood pain is of extreme importance to obtain safe blood, besides that it was possible in this article shows how much each step is necessary in the process to reduce the risks for the donor and recipient, In addition to being a process that has been evolving more and more, contact with new technologies and inspections, control resolutions to give the greatest security. All this so that it comes to minimize the risk more and more, even so it is a process in which you do not have 100% security, every donation has a risk. That is why it is so important in addition to the examination the coloration of the candidate donor, so that it can guarantee the safety of the donor and the recipient does not come if it gets contaminated or anything else.

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