

Transfusion Practices in a Tertiary Care Centre: A Study

Dr. Sonam Singh, M.B.B.S.
ssona8888@gmail.com

Dr. Lokesh Sachdev, M.B.B.S.
lokeshsachdev1989@gmail.com

Abstract— Blood transfusion is for the most part the way toward accepting blood or blood items into one's dissemination intravenously. Transfusions are utilized for different medical conditions to replace lost parts of the blood. Early transfusions utilized entire blood, yet present day medical practice regularly utilizes just segments of the blood, for example, white blood cells, red blood cells, plasma, clotting factors, and platelets.

The transfusion prerequisites for patients experiencing surgeries are frequently overestimated. The result of such a training incorporate expanded cost to the patient, outdated of blood, overburdening of blood donation center work force, consumption of blood donation center assets, and wastage of time. In perspective of this, the present examination was directed to survey blood transfusion ask for examples and use keeping in mind the end goal to evaluate transfusion practices.

Keywords- Blood transfusion, medical practice, blood cells, transfusion practices.

I. INTRODUCTION

Blood transfusion chain can be partitioned into three stages: preanalytical (patient bedside), analytical (steps done at transfusion administrations), and postanalytical (bedside). Dominant part (~70%) of occasions because of blood transfusion has been ascribed to mistakes in bedside blood organization practices. Study of bedside transfusion practices (pre-explanatory and post diagnostic stage) was done to assess attention and assent to guidelines regarding request and administration of blood components [1].

It is well known that fault in blood transfusion practices can prompt genuine outcomes for the beneficiary as far as morbidity and mortality. The larger part of fault happen because of off incorrect sampling of blood from a patient, bringing the wrong unit of blood for a patient and transfusing blood improperly. These clinical transfusion rules portray conventions for the gathering of blood tests for blood gathering and cross coordinating, and for the accumulation, storage and organization of blood and blood items. The rules give an institutionalized way to deal with transfusion so the potential for mistakes is limited and the organization of protected and strong blood items in the social insurance setting is amplified. They additionally contain conventions for the examination and treatment of unfavorable transfusion responses and give rules to the utilization of particular blood items [2].

In order to implement guidelines for standard transfusion practices, a coordinated team effort by clinicians, blood transfusion experts, other laboratory personnel and health care providers involved in the transfusion chain, is needed. [2]

Accessibility of sufficient safe blood has been trying in creating nations because of lack of deliberate blood contributors, poor offices for capacity and blood part planning and also unseemly blood requesting and utilization.[4] likewise, over the top requesting of blood can prompt an unexpected abuse of blood donation center administrations. It creates the impression that specialists and doctors arrange ask for cross-coordinating of blood based on propensity or as a component of healing facility schedules, and there is an inclination in generally crisis medicinal and careful divisions to arrange a greater number of units of blood than what are really needed.[5]Currently, there are no particular proof based rules for the fitting measure of blood items to be requested for particular techniques. Or maybe, inordinate blood items are

requested because of obsolete preoperative institutional or specialist particular guidelines.[3] Periodic evaluation of transfusion practice may feature weaknesses that could be tended to toward arrangement of sufficient safe blood or great practice that could be strengthened.4 In perspective of this, the present investigation was led to survey blood transfusion ask for examples and utilization so as to assess transfusion practices

II. SAFE BLOOD

Blood for transfusion is considered safe when it is:

- Donated by a carefully selected, healthy donor
- Free from infections that could be harmful to the recipient
- Processed by reliable methods of testing, component production, storage and transportation
- Transfused only upon need and for the patient's health and wellbeing

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III. REVIEW

According to [6]

The review considered that it was persisted 500 patients who required blood transfusion amid elective or crisis strategies in the healing center. The information was gathered from registers of blood donation center and from order shapes. The cross coordinated blood which was acquired however not transfused was evaluated. Information so got was and examined utilizing SPSS form 22 and communicated as Maintaining the Integrity of the Specifications.

Out of total 1356 units of requested blood, 433 (32%) were ordered by Surgery department, 216 (16%) by medicine, 395 (29%) by gynaecology and 312 (23%) by orthopedics. Out of requested blood, 53% was transfused. 62% was transfused by

surgery, 51% by medicine, 52% by gynaecology and 43% by orthopedics [6].

IV. RISKS OF BLOOD TRANSFUSION

There are several risk related with a getting a blood transfusion. They incorporate unfavorably allergic reactions, transmission of infections and irresistible illnesses, fever, iron-overload, lung damage, response from accepting the wrong blood classification and invulnerable framework issues. The most widely recognized antagonistic response to a blood transfusion is a febrile non-hemolytic transfusion response. The danger of serious bacterial contamination and sepsis is evaluated, starting at 2002, at around 1 of every 50,000 platelet transfusions, and 1 of every 500000 red platelet transfusions. Starting at 2006, the danger of gaining hepatitis B through blood transfusion in the United State is around 1 of every 250,000 units transfused and the danger of obtaining HIV or hepatitis C in the U.S. by means of a blood transfusion is assessed at 1 for every 2 million units transfused. Transfusion related intense lung damage is an undeniably perceived antagonistic occasion related with BT. It might happen as frequently as 1 out of 2000 transfusions [7].

The International Society of blood transfusion, otherwise called La Societe Internationale de Transfusion Sanguine, is a scientific society, established in 1935, which plans to advance the investigation of blood transfusion , and to spread the know-what about the way in which blood transfusion medication science best can serve the patient's interests. The society organizes sorts out international conference and advocates standardization and harmonization in the field of blood transfusion [8].

V. STEPS OF SAFE TRANSFUSION

Figure 1 shows the blood or transfusion safety. And figure 2 shows the different steps of safe transfusion.

Blood safety/ Transfusion safety



Figure 1: Blood safety/Transfusion safety

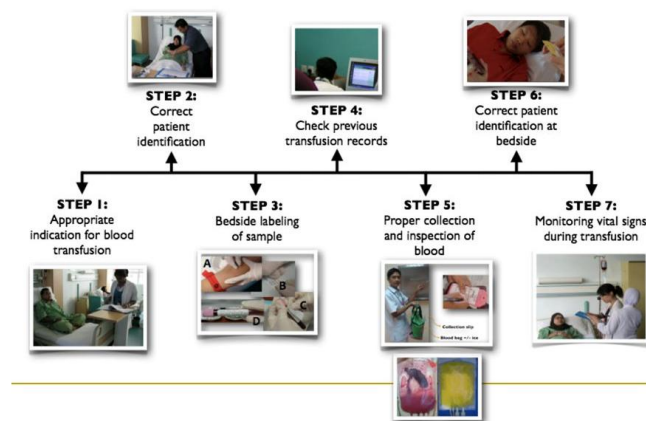


Figure 2: Steps of safe transfusion

VI. NEED OF STUDY OF TRANSFUSIONS PRACTICES

Blood transfusion is extremely normal. From a report it is seen that every year 5 million people in United States get life through blood transfusion. Numerous people who have surgery procedure require blood transfusions since they lose blood during their operation. For instance, around 33% of all heart surgery patients have a transfusion [9].

Oldham J et al (2009) expressed that blood transfusion treatment can save and improve patients' lives however careful consideration must be given to the related dangers. Medical caretakers must have the right stuff and learning required to tend to patients getting blood components. It is essential for medical attendants to comprehend the right and safe approach to approach transfusion practice as it is a steady and central component of modern health care.

Thus, the scientist wanted to assess the knowledge and practice with regards to medical attendants in regards to blood transfusion procedure in cardiac healing center.

VII. PRINCIPLES OF THE CLINICAL USE OF BLOOD

Blood components transfusion practice requires the steady utilization of basic clinical judgment. The restorative signs for each transfusion ought to be deliberately assessed, and every transfusion should be monitored for therapeutic adequacy. Unfriendly results may take after hemotherapy, notwithstanding when that treatment is shown, transfusion ought to be embraced just if the foreseen advantage exceeds the potential dangers.

some principles of the clinical use of blood/blood products are as follows:

1. The patient with intense blood loss should receive effective rejuvenation while the requirement for transfusion is assessed.
2. The distinct clinical or laboratory indications for transfusion should be studied.
3. The patient's haemoglobin vlaue, although necessary, should not be the sole deciding factor in beginning transfusion. The decision to transfuse should be supported by the need to diminish clinical signs and syndromes and avoid significant anguish and mortality.

4. Transfusion should be recommended only when the profit to the patients are likely to outweigh the danger of transmitting HIV, hepatitis B & C, or other infectious agents through blood products.

5. Educated assent for transfusion of blood and its items should to be taken. The doctor should to clarify the dangers and choices of transfusion to the beneficiary or responsible relative and archive in the therapeutic record that it has been finished. One time assent for consent transfusion will get the job done [10].

VIII. MULTIPLE TRANSFUSION

Multiple transfusions is the replicated transfusion of complete blood or red blood cells over a long period of time.

Indication is as follows:

■ Hypoproliferative anemia:

- Hypoplastic or aplastic anemias
- Drugs or chemicals induced hypo or aplastic anemias
- Radiation-induced marrow depression

■ Hemolytic anemias

- Thalassemia major
- Sickle cell anaemia
- Autoimmune hemolytic anaemia (AIHA)
- Paroxysmal nocturnal anaemia (PNH)

■ Anaemia associated with chronic diseases:

- Renal insufficiency
- Chronic inflammation
- Hepatic failure
- Malignancy [10]

IX. INDICATIONS OF BLOOD TRANSFUSION

There are many indications of blood transfusion. Some of them are as follows:

- Accidents resulting in considerable blood loss
- Women in childbirth and newborn babies in certain cases
- Cancer patients requiring therapy
- Severe burn victims
- Accidents resulting in considerable blood loss
- Anaemia
- Major Surgical Operation
- Women in childbirth and newborn babies in certain cases
- Patients of hereditary disorders like Haemophilia and Thalassemia [10]

X. TRANSFUSION PRACTICES IN A TERTIARY CARE CENTRE

The readiness and also usage of blood components is a important work which requires nonstop observation and improvements. Each blood donation center has it's own particular example of demands from the different human services suppliers around them. All things considered, the usage and wastage and framework expected to keep up them is distinctive for each blood bank. Each blood donation center should formulate its own rules in relationship to local requisitions from different healthcare providers so that there is no deferral in supply of the required item and furthermore there is no undue wastage [11].

some important steps for the study of Transfusion Practices in a blood donor center as follows:

1. In the very first step it has to record the Name or patient registration number for which the Transfusion Practices has to be done.
2. Check the Clinical explanation for which the product was needed
3. Note the Pre-transfusion values.
4. Take a record of previous transfusions of same or any other blood product
5. Maintain the record of the product preparation Date
6. Maintain the Record of the expiry Date of product
7. Maintain the Record of the Date on which the product is issue to the patient

Blood transfusion involves a critical piece of various treatment practice. Blood must be transfused considering clear safety measures since like drugs, blood and its segments have the inclination to cause symptoms, for example, introduction of donor antigens in the beneficiary, introduction to transfusion transmissible diseases and transfusion reactions [12]. The present review think about investigations the pattern of demand for several blood parts from different divisions of the healing center. The reason for the present examination was to survey the interest for different blood components and in this way guarantee their even supply without lack and furthermore at the same time diminish the wastage of the less much of the frequently requested components [13].

XI. CONCLUSION

This research study provides study of blood transfusion. the paper concluded with the discussion of need of transfusion practices, risk of blood transfusion. This also shows the importance of formulation and implementation of strict guidelines for transfusion practices in the blood donor centers.

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