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**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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**Guidelines for classification of blood donation adverse
reactions**

(English Translation)

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

Drafting organizations of this standard. Fujian Provincial Blood Center, Zhejiang Provincial Blood Center, Beijing Red Cross Blood Center.

1 Scope

This standard specifies the classification, severity assessment and correlation assessment of adverse reactions in blood donation.

This standard applies to the monitoring and analysis of adverse reactions in blood donations.

2 Terms and definitions

The following terms and definitions apply to this article.

Donation site

Blood donation service staff provide blood donation services for blood donors, including places where blood donors are observed and cared for.

Blood donation adverse reaction Complications related to blood donation A very small number of blood donors have local bleeding, pain, allergies or systemic vasovagus at the puncture site during or after blood donation Neural response.

3.1.1 Category A1 adverse reactions with bleeding at the puncture site as the main manifestation

3.1.1.1

Hematoma (ecchymosis). It is caused by blood flowing out of the vascular puncture site and pooling in the subcutaneous soft tissue. If there is significant swelling, namely for hematoma. If there is no obvious swelling, it is ecchymosis. The main manifestations are skin ecchymosis, discoloration, swelling and local pain, with the volume of hematoma Enlargement, swelling occurs, and the swelling compresses the surrounding tissues. The intensity of compression depends on the size of the hematoma and the degree of looseness of the surrounding tissues. Compress the nerve Sometimes it can cause neurological symptoms such as pain radiating to the forearm and hand and tingling around the hematoma. Blood pooling in the deep muscles of the forearm the hematoma formed between the tendon and the tendon tissue is difficult to be found at the initial stage. When the hematoma increases, the compression intensity increases, and nerve stimulation and bone fascia often appear Symptoms such as compartment syndrome.

3.1.1.2

Pierce the artery. The blood sampling needle is pierced into the brachial artery or its branches, showing mild pain in the elbow, and the blood collected is bright red.

The needle beats with the pulse of the artery, and the blood bag fills abnormally and quickly. If handled properly, hematoma will not form and other adverse reactions will not occur. but it is more likely to cause a large hematoma by piercing the artery, so forearm compartment syndrome, brachial artery pseudoaneurysm and arteriovenous fistula occur the probability is also higher.

3.1.1.3

Delayed bleeding. After the donor leaves the blood donation site, the pressure on the puncture site is released or the bandage is bandaged, the puncture site is renewed Spontaneous bleeding. The reason may be the incorrect pressing position or insufficient pressing time, or the donor's arm force or heavy lifting.

3.1.2 A2 type of adverse reactions with pain as the main manifestation

3.1.2.1

Nerve stimulation. It is caused by the compression of the nerve by the hematoma, manifested as nerve radiating pain and/or paresthesia related to the hematoma site, but the hematoma is not obvious. The pain does not occur immediately when the needle is punctured, but some time after the puncture, when the hematoma is large enough appear.

3.1.2.2

Nerve injury. When the blood sampling needle is inserted or withdrawn, the nerve is damaged, and the radioactive pain occurs immediately when the needle is inserted or withdrawn.

Often accompanied by paresthesias.

3.1.2.3

Tendon injury. The blood sampling needle punctures the tendon, and the local non-radioactive pain immediately occurs when the blood sampling needle is inserted into the needle.

3.1.2.4

Pain in the arm. During blood donation or within a few hours after blood donation, local radioactive pain in the arm, but no other manifestations, should not be treated Classified as nerve stimulation, nerve injury or tendon injury.

3.1.3 A3 type local inflammation

3.1.3.1

Thrombophlebitis. Inflammation of the veins related to thrombus, manifested as local redness, swelling, heat and pain along the blood vessel near the puncture site.

Tenderness is obvious. Thrombophlebitis occurs in the superficial veins, which is manifested as induration of red cords under the skin and obvious tenderness.

3.1.3.2

Local skin allergies. The skin of the donor's blood collection site has an allergic reaction to the medical consumables used in the blood collection process, and the blood collection site Rash, swelling and itching of the skin.

3.1.3.3

Local infection. The infectious inflammatory reaction at the blood sampling puncture site is manifested by local skin redness and inflammatory exudation.

3.2 Type B adverse reactions with systemic manifestations

Adverse reactions that are mainly systemic, namely vasovagal reactions, are caused by psychological and physiological factors of blood donors and hypovolemia and less. Most symptoms are mild, manifested as general malaise, weakness, pale complexion, sweating, anxiety, dizziness, and nausea. A few are more serious, There may be transient loss of consciousness (syncope), convulsions, or incontinence. In the event of fainting and falling, accidental injuries can result.

The grouping situation is as follows.

- a) According to whether syncope occurs, it is further divided into two subcategories. syncope and no syncope;
- b) According to whether it is accompanied by damage, it is further divided into two sub-categories. damage and no damage;
- c) According to whether it occurs in the blood donation place, it is further divided into the occurrence in the blood donation place (on the spot) and the occurrence after leaving the blood donation place (away) 2 subcategories.

Note: In blood donation places, blood donation service staff can observe blood donors and appropriately handle blood donors who have adverse blood donation reactions. Donate blood After the person leaves the blood donation place, the blood donation service staff cannot observe and care for him.

3.3 Category C adverse reactions related to apheresis blood components

3.3.1

Citrate reaction. Citrate is a commonly used anticoagulant for apheresis blood components, which plays an anticoagulant effect by chelating calcium ions. in During apheresis, a larger amount of citrate is returned to the blood donor, which can cause hypocalcemia and hypomagnesemia. Neuromuscular performance There are mainly numbness of the lips and mouth, facial numbness, dizziness, convulsions, tremor, nausea, and vomiting. In severe cases, ankylosing spasm of arms and feet may appear twitch. The main manifestations of the cardiovascular system are hypotension, arrhythmia, and significantly prolonged QT interval of electrocardiogram.

3.3.2

Hemolysis reaction. The red blood cell membrane of the blood donor is highly fragile or the red blood cell is damaged during apheresis. The main manifestations are chills, hair Heat, irritability, chest pain, back pain, abdominal pain, nausea, vomiting, diarrhea, flushing, dyspnea, hypotension, shock, body bleeding and hemoglobinuria, oliguria or anuria.

3.3.3

Systemic allergic reactions. The blood donor is allergic to the sterilant of disposable apheresis consumables or the additives used in the apheresis granulocyte procedure reaction. The main manifestations are urticaria, periorbital edema, difficulty breathing, redness and swelling around the lips. In severe cases, laryngeal edema, hypotension and even to shock.

3.3.4

Air embolism. A large amount of air enters the venous system through apheresis equipment or leaky pipes, which is a rare adverse reaction of apheresis.