Perspective, multiple-centered, randomized control method evaluation The safety and efficacy for clinical application of completely degradable occlusion system for ventricular septal defect

Informed Consent Form

Name of medical device used for test: Completely degradable occlusion system and occluder surgical interventional delivery device

Sponsor: Shanghai Shape Memory Alloy Co., Ltd

Program name: Perspective, multiple-centered, randomized control method evaluation the safety and efficacy for clinical application of completely degradable occlusion system for ventricular septal defect

Version number and date: XZKJ-1801-V2.0 Date: November 1, 2018

Name of research center: Fuwai Hospital, Chinese Academy of Medical Sciences

Dear participant:

You will be invited to participate in a clinical test called "the safety and effectiveness of the clinical use of the completely degradable ventricular septal defect occlusion system". The following describes the benefits for you in the purpose, methods and testing process of the medical devices used for the test, and possible risks or inconvenience and your rights and benefits. Please be sure to read carefully before participating in the clinical trials. The information provided in this informed consent can help you decide whether to participate in this clinical trial. If you have any questions, please ask the researcher in charge of this trial to ensure that you fully understand the related content. It is voluntary for you to participate in the test. If you agree to participate in the clinical test, please sign the statement of this informed consent.

1. Research purpose

In accordance with the requirements for the clinical research on class III medical device products, the clinical tests are conducted on the fully degradable occlusion system and occluder surgical interventional delivery device, in order to evaluate the safety and effectiveness of this product in the treatment of congenital heart disease ventricular septal defect compared with the traditional occluders.

2. Research methods

Participating in this research, you will be randomly assigned to the test group or the control group according to the random number. The test group will be treated with the completely degradable occlusion system and occluder surgical interventional delivery device, while the contrast group will be treated with the ventricular septal defect occluder and the occluder interventional delivery device that the company has sold in the market. You need to cooperate with the doctor to complete the following observation work:

1) At the first treatment, please tell your medical history to the doctor in detail and go through the corresponding examinations and tests, so that the doctor can make an accurate judgment and decide whether you are suitable for this research.

2) You should cooperate with your doctor for operative treatment during the operation.
3) During your stay in the hospital, you need to cooperate with your doctor to complete relevant examinations and tests.
4) You need to go back to the hospital for relevant examinations one month, three months and six months after the operation (See the table below).

3. Test process and deadline

The test is a prospective, multicenter, and randomized contrasted non-inferior clinical test with the occlusion success rate six months after the complete degradable occlusion operation as the main evaluation index. A total of 108 participants are expected to be enrolled, and 30 participants are expected to be enrolled in this center. During the whole test period, the program related examinations that you need to take and the information that we will collect are shown in the following table:

Research Stages	Screening	Treatment/follow up period			
	Pretreatment	*Hospitalization Treatment Period*	*Follow up 1*	*Follow up 2*	*Follow up 3*

Time window	Before operation Within 15 days	Operation Record:	Immediately after operation.	Between Post operation and pre-discharge	1 months ±7 days	3 months± 15 days	6 months±30 days
Informed Consent	√						
Inclusion/Exclusion Criteria	√						
Demographic Data	√						
Vital Signs	√	√		√			
Medical History	√						

Medication Record (History)	√	√	√	√	√	√	√
Blood Routine:	**a**			√			
Urine Routine	√[a]			√			
Blood Biochemistry	√[a]			√			
Blood coagulation	√[a]						
Urine Pregnancy	√[a]						
Electrocardiogram	√[a]	√	√	√	√	√	√
Ultrasonic Cardiogram	√[a]	√	√	√	√	√	√
Chest X-rays	√[a]			√			

Adverse Events		√	√	√	√	√	√

a. If the blood routine, urine routine, blood biochemistry, blood coagulation, urine pregnancy, electrocardiogram, Chest X-rays, ultrasonic cardiogram have already been carried out within 15 days before signing of informed consent, they can serve as baseline assessment, needless of repetition; for urine pregnancy, it is only necessary for women of child bearing age.

b. Medication records are only necessary for recording of anti-coagulation, anti-biotics and anti-virus drugs relevant to trials;

For testing items not required by the current protocol however with relevant prescription in the medical institutions, it is carried out of inspection according to the requirements in details of the medical institutions.

4. Funding sources and possible conflicts of interest for the test

The test funds are offered by Shanghai Shape Memory Alloy Co., Ltd; you, as the participant, have no conflict of interest with the sponsor Shanghai Shape Memory Alloy Co., Ltd., the researchers of the test, and the parties of the ethics committee of the center.

5. Possible adverse reactions

Since any treatment has its risks, various complications may occur. In this research, the possible complications of the research same as the routine ventricular septal occlusion operation include arrhythmias, occluder displacement or detachment, tendon rupture, tricuspid closure insufficiency, aortic valve regurgitation, residual shunt, hemolysis, and acute myocardial infarction. But tens of thousands of people at home and abroad have undergone the similar surgery, with a low incidence of surgical complications, which can be recognized clinically. Our clinicians can quickly and accurately prevent the occurrence of complications and deal with it at the same time.

6. Risks and benefits of participating in this research

According to the established scheme, we will treat you and closely observe, test and examine your various physical conditions. Before you are admitted to the group, you will be checked according to the test contents specified in the plan. Only when your test

results meet the requirements, can you be admitted to the group. During the treatment, you can use the occluder for free and receive relevant examinations free of charge (The examination items specified in the above table).

The completely degradable occlusion system and the similar products of the occluder surgical interventional delivery device in this test have not been available for sale in China, so this test may have some risks. Participating in this research, you may benefit from the treatment of your illness. In the course of clinical research, if you have adverse reactions due to the device, timely and necessary treatment will be provided for you free of charge.

Shanghai Shape Memory Alloy Co., Ltd. will buy the bio-pharmaceutical human clinical trial liability insurance of China Pacific Property Insurance Co., Ltd.

7. Research consulting

If you have any questions about this research, including questions about the rights and interests of participants or the devices, you can contact the doctor in charge of this research directly at any time. It is the doctor's responsibility to answer your questions truthfully.

If you have any questions about your rights and interests during the research, please contact the medical ethics committee of the hospital (contact number:_____).

8. Research costs

The occluder and surgical interventional delivery device required for the clinical test you are participating in are provided free of charge by Shanghai Shape Memory Alloy Co., Ltd, and the related examination fees (the examination items specified in the above table) are free of charge.

9. Related compensation

In case of any injury or death related to the clinical test, Shanghai Shape Memory Alloy Co., Ltd. will bear the cost of treatment and the corresponding economic compensation, but the medical institution will compensate for the damages caused by the medical institution and its medical staff's fault in the diagnosis and treatment activities.

10. Alternatives diagnosis and treatment beyond the test

The ventricular septal defect treatment is divided into medical treatment and surgical treatment:

10.1 Medical treatment: Percutaneous intervention occlusion

10.2 Surgical treatment: Occlusion operation via the surgical means or the surgical repair operation to the defect part

11. Responsibility for confidentiality

Your personal identity and information will be kept confidential by the research unit throughout the whole test. All your records and results in the research will be accessible to the clinical sponsor and the clinical research unit, and related information may be published, but only for scientific research purposes. The State Food and Drug Administration has the right to access and refer to these records when necessary.

You may choose not to participate in this test, or withdraw at any time after notifying the researcher without discrimination or retaliation, and your medical treatment and rights will not be affected.

If you need other diagnosis or treatment, or you fail to comply with the research plan, or for any other reasonable cause, the research physician can stop you from continuing to participate in the research.

You can learn about the information and research progress related to this research at any time. If you have questions related to this research, or if you have any discomfort or injury during the research, or questions about the rights and interests of the participant of the research, you can contact _____(name of researcher or related staff) at _____(Telephone number).

If you are a participant in the research, please read and sign the statement below:

I have carefully read this informed consent, and I have the opportunity to ask questions and all questions have been answered. I understand and participate in this research voluntarily. I can choose not to participate in this research, or withdraw from the

research after informing the researcher at any time without discrimination or retaliation, and my medical treatment and rights and interests will not be affected.

If I need other diagnosis or treatment, or I fail to comply with the research plan, or for any other reasonable cause, the research physician can stop me from continuing to participate in the clinical test.

I have voluntarily agreed to participate in the clinical test, and I will receive a signed copy of the "Informed Consent".

Signature of the participant: _____

ID number of the participant: _____

Date: _____

If you are the legal guardian of the participant, please read and sign the following statement:

Guardian statement

I have carefully read this informed consent, and I have the opportunity to ask questions and all questions have been answered. I understand and allow my child to participate in this research voluntarily. I can choose not to let my child participate in this research, or withdraw from the research after informing the researcher at any time without discrimination or retaliation, and any medical treatment and rights and interests of my child will not be affected.

If my child needs other diagnosis or treatment, or my child fails to comply with the research plan, or for any other reasonable cause, the research physician can stop my child from continuing to participate in the clinical test.

I voluntarily allow my child to participate in the clinical test, and I will receive a signed copy of the "Informed Consent".

Signature of the participant: _____

(If the participant is below 8 years old, the guardian should fill in the name of the participant here. If the participant is above 8 and below 18, the participant shall sign his/her own name and the guardian shall fill in the following content.)

Signature of guardian: _____

Relationship between guardian and participant: _____

ID number of guardian: _____

Date: _____

Statement of researcher

I have accurately informed the participant of the content of the informed consent and answered the questions of the participant, and the participant takes part in the clinical test voluntarily.

Signature of researcher: _____

Date: _____