

SISA Press Conference at Taj Deccan, Hyderabad

SISA performs the first 'Advanced Reverse Shoulder Replacement' for Shoulder Tumor, in the country!

- This procedure was successfully attempted only twice earlier, globally

Hyderabad, April 9th 2017: It was end of the road for a forty six year old Mrs Padma, a beautician who was diagnosed with malignant bone tumor of proximal end of humerus bone. With little hope, she landed at SISA(Sai Institute of Sports Medicine and Arthroscopy) Hospital. Following numerous tests and medical analysis led by Shoulder & Knee Surgeon, Dr. Raghuv eer Reddy and a cross-section of experts in different fields, it was decided to go for an Advanced Reverse Shoulder Replacement with Muscle Transfer, a recent innovative procedure in the field. Such a procedure was successfully attempted only twice globally. If she was treated with routine conventional surgical techniques, she could not have been doing her routine daily activities like lifting arm, combing her hair and not pursuing her profession.

Mrs Padma's humerus head and the nearby portion had developed malignant tumor of the bone, which necessitated complete removal of that tumor bone mass and also the muscles which aid movement of the shoulder. A normal shoulder replacement wouldn't have helped in her case as her shoulder muscles were also removed due to tumor. Therefore the Advanced Reverse Shoulder Replacement with Muscle Transfer was performed. This involved interchanging of the positions of the ball joint and the socket in the shoulder. A rounded metal ball was instead implanted in the location of the earlier socket and a plastic concave shell that could fit in the round head of the ball, was implanted at the earlier ball location, this interchanging procedure is called the Reverse Shoulder Replacement. And the muscle transfer to aid the shoulder movement, was accomplished by transferring the chest wall muscle to the arm. This muscle transfer ensures external rotation of the arm. In six months since the patient underwent the surgery she could get 160^o elevation of the arm and also do external rotation. The earlier two patients who underwent this procedure elsewhere in the world could accomplish 150^o and 120^o external rotation only, therefore this patient has better external rotation.

Explaining the concept, Dr. Raghuv eer Reddy says, *RSR uses the deltoid muscle instead of rotator cuff for getting elevation of shoulder, thereby lifting the arm. This reverse shoulder replacement is being used as extended indications such as in treating fractures in old aged patients with osteoporosis, (above 65-70 years where bone does not have much healing capacity), shoulder arthritis patients having rotator cuff muscle tears, salvage procedure for failed replacement & failed fracture surgeries and tumors of proximal humerus.*

In tumor cases, wide resection of bone & muscle tissue is done and gap is filled with spacer (long stem hemiarthroplasty) or fill gap with bone & fuse the joint. In the present case, tumor was resected by Dr. IV Reddy and Dr. Raghuvveer Reddy took up reverse shoulder replacement after proximal one fourth of humerus bone resection. For the first time in India reverse shoulder replacement and muscle transfers from chest wall to arm were done together. Normally reverse shoulder only elevates the arm, but rotational movements are not possible which are very essential for activities of daily life. By doing muscle transfer, rotational movements are gained, thereby achieving maximum possible functional shoulder. Till now only two such surgeries have been performed in the world.

From a desperate situation, the patient recovered in six months and is back to her profession.

This being the only such successful attempt in India, SISA Hospital has decided to share the path-breaking RSR procedure at the 10th SISA Live Surgery 2017 Advanced Shoulder Workshop proposed to be held in Hyderabad. Over 300 surgeons from different parts of the country are participating in the Workshop being held in Hyderabad. Apart from live surgeries, new techniques and advances in the field were discussed, by experts led by Dr. Raghuvveer Reddy K. (Organising Secretary), Dr. Sanjay Desai, Dr. Ashish Babhulkar, Dr. Dheenadhayalan (renowned Shoulder surgeons from Mumbai, Pune & Coimbatore), Dr. Peter Campbell (Australia) and other surgeons.

About Reverse Shoulder Replacement

At present one major innovation in the field of joint replacement is reverse shoulder surgery, where in the position of the ball joint and the socket holding the ball, is interchanged. Pioneering work by Dr. Paul Grammont in 1985 revolutionized shoulder arthroplasty and have been fundamental to all subsequent advancements. Modern generation systems continue to evolve and is being used all over the world since 12 years. Shoulder replacement is less commonly done as compared to knee and hip joint replacements to relieve joint pain. Reason being it is not weight bearing joint. Shoulder joint is complex joint and has maximum mobility of all joints in the body. Shoulder is helpful in optimizing the function of hand and we can place hand, where we want in the air. Shoulder joint is a ball and socket joint. The part that replaces the ball consists of a stem with a rounded metal head. The part that replaces the socket consists of a smooth plastic concave shell that matches the round head of the ball. When only humerus head is replaced it is called Hemiarthroplasty, if both sides of the joint are resurfaced, it is called Total shoulder Replacement. Depending on pathology, surgeon takes a call whether to do hemiarthroplasty (Partial shoulder replacement) or Total shoulder replacement. Shoulder muscles (rotator cuff) are required for functioning of above shoulder replacements.

Reverse Shoulder Replacement (RSR) helps patients in cases where muscles needed for movement of the joint are also damaged. The reverse shoulder takes advantage of other muscles that are functional around the joint and helps regaining the shoulder function. Reverse shoulder was initially used for treating the arthritis patients arising from non-repairable old, massive rotator cuff muscle tears. In massive rotator cuff muscle tears there is upward migration of humeral head and subsequent arthritic changes at shoulder joint.

