

REOPEN THE COMPLETELY BLOCKED HEART ARTERY WITHOUT SURGERY – NOW POSSIBLE AND SAFE



WHEN ANY ONE OF THE THREE 'CORONARY' ARTERIES supplying blood to the heart suddenly becomes blocked, heart attack occurs. Heart attack is currently a major killer disease in Singapore.

The blockage is usually caused by accumulation of cholesterol. Nowadays, when a segment of the artery is partially blocked it can be treated with a stenting procedure. In essence, a wire is passed down the narrowed segment, followed by a balloon and 'stent' to keep the vessel opened. This procedure is

now commonly performed safely by well-trained cardiologists.

If the narrowed segment is not treated, it may lengthen or become completely blocked. With time, calcium will also build up causing the blockage to harden. This will be like pouring concrete into a pipe.

When the segment of the artery becomes completely blocked and hardened, it will not allow wire, balloon or stent to pass easily. Therefore, chances of opening this artery successfully are only 50%. Patients are then left with the option of a bypass operation or medical treatment only.

New techniques have been developed to open completely blocked arteries. It is known that when a segment becomes completely blocked (for example the Right Artery in Fig. 1), very fine hair-like blood vessels (called 'capillaries') may open up beyond the blocked segment. The capillaries, connect the blocked artery some distance below the blockage point to the normal Left Artery. (Fig. 2 shows a fine capillary connecting the Left Artery to the Right Artery). It was further found that these fine channels allow the passage of wire for stenting. Therefore, instead of passing the stenting wire from above the blockage, the stent wire will now be passed from the normal Left Artery into the capillary. It will then travel inside the capillary and join the Right Artery. Finally it will approach the Right Artery blockage from below (Fig. 3). The rest of the stenting can then be completed and the Right Artery opened (Fig. 4).

This is called 'Retrograde' approach. It is a highly skilled and complex procedure which allows completely blocked artery to be opened without surgery. Using retrograde and other techniques, Dr Tan has achieved a success rate of 85% for opening up completely blocked arteries, thereby saving many patients from the stress and risks of bypass operation. ■

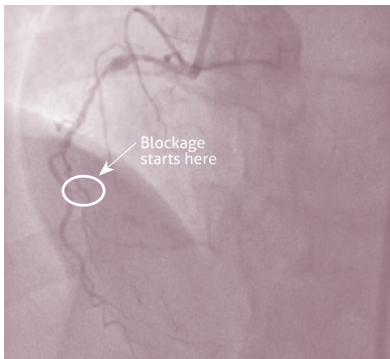


Figure 1: Completely blocked Right Artery

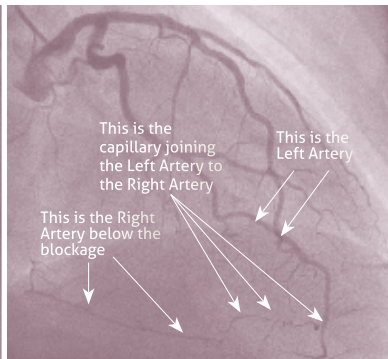


Figure 2: The capillary connect the Left Artery to the Right Artery

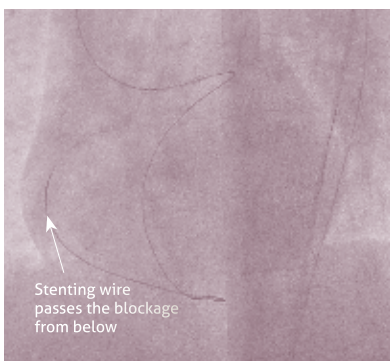


Figure 3: Stenting wire crosses the blockage from below

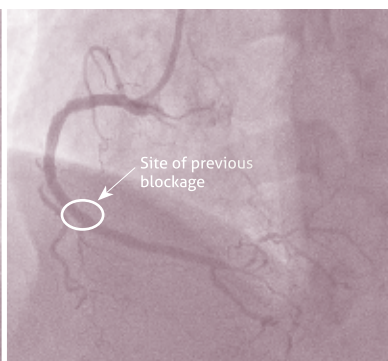


Figure 4: The Right Artery is now opened

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