

*"A doctor who stops studying is no longer
a doctor. He becomes a patient."*

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HEART FAILURE



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I am glad and proud to be here because this is the beginning of the professor-and-student-exchanging program between your college and my university. I am a cardiologist. Now that we start with the "heart", we can expect that through this program the better understanding between your and my people will be established. We should get closer. don't we?

I come here as a student as well as a teacher. I learn while I teach. I enjoy being a student, because "A doctor who stops studying is no longer a doctor, he becomes a patient."

Heart diseases are met by every doctor. The importance of the heart disease lies in heart failure. This is why I select this subject as my first lecture here. You have already had many weapons to fight against heart failure in your textbooks. But when and how do you use these numerous weapons? This is what I want to tell you to-day.

DEFINITION AND ETIOLOGY

The meaning of heart failure is the failure of the heart to perform its function. That is, it fails to pump out the amount of blood required by the body.

The causes of heart failure may be classified as follows:

- A. Injury
 - a) myocardial Infarction
 - b) inflammation of the heart, the incidence of which is increasing in U.S.A.
bacterial and viral
- B. Strain
 - a) tachycardia
 - b) obstruction, such as MS
 - c) resistance, such as essential hypertension
 - d) shunts, such as PDA, ASD, VSD, A-V fistula
 - e) hypermetabolism
 - f) deficiency diseases, such as anemia

I was once sent for to see an old lady who was in heart failure. When I arrived at her home, there were already two cardiologists. (When you see two cardiologists at the same time, you know this is a difficult case.) What is more, a few minutes later, an anesthesiologist came in. (So you know we were facing a dangerous case.) We discussed her ECG in the living room, some of us thinking it was a ventricular tachycardia while others thinking it was an auricular tachycardia. Since no agreement was attained, I suggested, "Why don't we go next door and see the patient?" When we entered the bedroom, the patient was in an oxygen tent, extremely weak and dyspneic. I reached up to feel her pulse. "Doctor, her pulse rate is 180." A special nurse who had been there told me. "Yes, I know it. Please go on counting her pulse." At the mean-time, I compressed the patient's carotid sinus. "Doctor, her pulse is slowing down." "Oh, yes?", I answered calmly. "Please remove the tent. Please remove the tent." This time the voice was different. It was the old patient's voice. Just a while later, she jumped out of the bed and talked with us and walked with us. It was a magic moment. Since then, her families always call me a magician. But I am not a magician. It was a case of supraventricular tachycardia. So, PLEASE REMEM-

BER THAT TACHYCARDIA ITSELF CAN CAUSE HEART FAILURE.

There was another case that I will never forget. When I returned from the United States to Philippine as a cardiologist in 1951, a patient was referred to me. He had anasarca, a huge heart and various murmurs. After physical examination, I wrote down "Rheumatic heart disease with MI, MS, AI, TI and congestive failure" as etiologic, anatomic and physiologic diagnosis. They had to believe me, because I was then a cardiologist. But an intern in the hospital, like most interns, stuck to doing routines. He found that the patient had severe anemia. Since severe anemia is always an indication for blood transfusion, I agreed him to give blood. After three transfusions, the patient became free of any symptom. The murmurs all disappeared. The cardiologist almost disappeared, too. But, this was not the end of this story. We had to search for the cause of his anemia. It was demonstrated to be *ancylostoma duodenale*.

APPROACH TO THE PATIENT

- A. Is it a high output failure or a low output failure?
In high output failure such as a shunt, digitalis is less effective. Don't give additional doses of digitalis blindly in this type of failure.
In low output failures, digitalis works best.
- B. Do other manifestations come before or after the heart fails?
In case of myocardial infarction, there is no time for the development of other manifestations such as generalized edema. This kind of failure has a poor prognosis.
If edema has been developing gradually, you can expect a better prognosis. Diuretics are usually effective in such type of heart failure.
- C. Is it a left failure, right failure or combined failure?
If a patient with a long standing hypertension becomes unable to sleep well during the night, he probably is having a left failure. The control of blood pressure, sleeping in semi-recumbent position and drinking less water before sleep will relieve him. If he can lie supine and sleep, this does not necessarily mean that the doctor's duty is over. If his legs are still swelling, he probably has an associated right failure.
- D. Is the blood volume increased or decreased?
The blood volume in heart failure is not always increased. Seeing a patient with weakness, cold skin, decreased mentality and low blood pressure, you must think of this. If you find that he has a low blood volume, you must give some osmotic drug to drive the interstitial fluid into the blood, using the blood pressure as an index.

SOME REMARKS ON TREATMENT

- A. Diet
- Low salt diet—Other food taken outside the mealtime should be checked. Soda water and biscuits should be prohibited.
 - Water must be sufficient—
I had a young engineer as my patient. He had anasarca. I gave him diuretics, yet his urinary out-put was only 300cc on that day. I found that he drank only 300cc that day for fear of getting more swollen. I ordered him to drink 1.5 liters the following day. He protested, "I have already got too much water in my arms and legs, Doctor." Yet I replied, "If you don't follow my order, I will not treat you any more." He gave way unwillingly, but the edema subsided in three days.
 - Protein must be sufficient.
- B. Position—The position that the patient likes best is the best position. Don't force the patient to lie down to "take a bed rest", you may kill him this way.
- C. Activity
Activities of legs promotes venous return and may share the load of the heart up to 30%. It is obvious that the exercise of legs or even general exercise is important. The activities that the patient likes and can do without fatigue are his optimal activities.

SUMMARY

When you see a patient, with heart failure you must try to find out the etiology first. Then you consider the cardiac output, the sequence of manifestations, the failing chamber or chambers and blood volume, and a proper program of treatment can be set up. Thank you for the invitation of your Dean Hsu and your attendance.