

# Congested heart failure case study



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History: Martha Wilmington, a 74-year-old adult female with a history of arthritic febrility while in her mid-twenties, presented to her doctor with ailments of increasing shortness of breath ( " dyspnea" ) upon effort. She besides noted that the typical puffiness she's had in her mortise joints for old ages has started to acquire worse over the past two months, doing it particularly hard to acquire her places on toward the terminal of the twenty-four hours. In the past hebdomad, she's had a decreased appetency, some sickness and emesis, and tenderness in the right upper quarter-circle of the venters.

On physical scrutiny, Martha's jugular venas were perceptibly distended. Auscultation of the bosom revealed a low-pitched, rumbling systolic mutter, heard best over the left upper sternal boundary line. In add-on, she had an excess, " S3" bosom sound.

Using the cyberspace, make any applicable hunts to give a sensible scientific account to the inquiries below. Understanding figure 20-13 in your text edition besides may add some penetration to these inquiries.

You may happen the undermentioned links utile to help you replying these inquiries:

Congested Heart Failure Paper

ABC of Heart Failure

What is doing this mutter? Possibly there has been contracting of Martha's pneumonic semilunar valve which is located between the right ventricle and the pneumonic arteria. The shutting of this valve is heard best over the left

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upper sternal boundary line. As stated above, this is where auscultation of the chest uncovering a low-pitched, rumbling systolic murmur. A murmur sound is heard due to the high opposition to blood being pumped through.

2 ) What is causing her " S3" chest sound? An S3 sound is an excess sound bespeaking unnatural blood force per unit area within the chest, viz. against the ventricle walls during diastole ( relaxation ) . Blood seems to be fluxing excessively quickly into the ventricles during diastole. She may hold ventricular walls that have become hard-boiled and therefore non loosening as needed in order to make full with easiness. As the blood rapidly flows in, it will hit the hard-boiled walls, making an excess sound. In congestive chest failure, preload and contractility are major factors in the improper operation of the chest as a pump.

3 ) Is her history of rheumatic fever relevant to her current symptoms? Explain. Rheumatic fever caused by Group A Streptococcus bacterium may do harm to chest tissues including valves. Overtime, congestive chest failure may have developed. However, the pulmonary semilunar valve seems to be the issue in this instance survey, whereas rheumatic fever usually affects left chest tissue. 4 ) A chest X ray reveals a cardiac silhouette that is normal in diameter. Does this rule out a possible problem with Martha's chest? Explain. No, a normal diameter of a cardiac silhouette does not govern out a problem with Martha's chest. The chest adapts and will counterbalance for harm in order to still work optimally. The right ventricle, in this instance, will go stronger in order to force the same sum of blood ( stroke volume ) through the narrowed pulmonary semi-lunar valve. This hypertrophy doesn't needfully change the interior diameter.

5 ) You examine Martha's venters and happen that she has an enlarged liver ( " hepatomegaly" ) and a moderate grade of ascites ( H<sub>2</sub>O in the peritoneal pit ) . Explain these findings. The increased opposition of blood flow through the pneumonic semilunar valve from the right ventricle backs up the force per unit area of blood fluxing into the right atrium. This back flow force per unit area builds up in the organic structure as systemic force per unit area. increasing hydrostatic force per unit area which increases unstable build-up ( ascites ) in the peritoneal pit and liver. enlarging the liver.

6 ) Examination of her mortise joints reveals important " pitting hydrops. " Explain this determination. Fluid builds up in the interstitial infinite of her appendages ( i. e. mortise joints ) due to the alterations in the hydrostatic force per unit area caused by the back-flow force per unit area arising in the bosom.

7 ) She is advised to have on support stockings. Why would this assist her? Support stockings could be used. I worked at a Med-Spa and the physician would rede his patients to have on compaction hosieries after optical maser vena interventions if there were no other single contraindications of usage. Compaction hoses prevent fluid from roll uping in environing tissues and interstitial infinities by directing extra fluid into other blood vass and the lymphatic system.

8 ) Which term more accurately describes the emphasis placed upon Martha's bosom — increased pre-load or increased afterload? Increased after-load describes the emphasis placed upon Martha's bosom. Afterload is the force per unit area that the bosom pumps blood against. There is

increased force per unit area associated from left ventricular harm and narrowing of the semi-lunar valve in Martha's diseased province. taking to the opposition of blood flow.

9 ) What is the general term depicting Martha's status? Right-sided congestive bosom failure is the general term for Martha's status.

10 ) How might Martha's organic structure compensate for the above status? Martha's sympathetic nervous system will get down to rule. doing bottleneck of blood vass so that of import variety meats will recover necessary bringing of blood. Besides. bosom rate and shot volume affect cardiac end product. In Martha's instance. cardiac end product is affected due to a lessening in shot volume. Higher opposition to blood flow decreases the sum of blood pumped by her ventricles. so the bosom compensates in order to work optimally. Increased contractibility or the increased rate at which her bosom pumps is declarative of this compensation.

11 ) Martha is started on a medicine called Lanoxin. Why was she given this medicine. and how does it work? Digitoxin ( digitalin ) increases the strength and length ventricular contraction which slows bosom rate by cut downing sympathetic activity. Her right ventricle will so pump more expeditiously.

12 ) 12. Two hebdomads after get downing Lanoxin. Martha returns to the physician's office for a follow-up visit. On physical scrutiny. she still has important megalohapatia and opposing hydrops. and is significantly hypertensive ( i. e. she has high blood force per unit area ) . Her physician prescribes a diuretic called Lasix ( or " Lasix" ) . Why was she given this medicine. and how does it work? Digitoxin is normally given in concurrence

with a diuretic. The usage of a diuretic manages edema, a symptom of congestive heart failure. Increased micturition will free her organic structure of extra ions, cutting down the sum of fluid in the interstitial spaces.