

HYPERTROPHIC CARDIOMYOPATHY

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Plan:

- Classification
- Definition of disease
- Etiology
- Morphology:
 - macro image;
 - micro image.
- Complications
- Conclusion
- Reference

Cardiomyopathies

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graph TD; A[Cardiomyopathies] --> B[PRIMARY]; A --> C[SECONDARY]; B --> D[Dilated cardiomyopathy]; B --> E[Hypertrophic cardiomyopathy]; B --> F[Restrictive cardiomyopathy]; C --> G["found at:  
-intoxication;  
-infections;  
- Hereditary and acquired metabolic diseases;  
- GIT diseases; etc."];
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The diagram is a hierarchical flowchart. At the top is a box labeled 'Cardiomyopathies'. A line from this box branches into two boxes: 'PRIMARY' on the left and 'SECONDARY' on the right. From the 'PRIMARY' box, a line branches into three boxes: 'Dilated cardiomyopathy', 'Hypertrophic cardiomyopathy', and 'Restrictive cardiomyopathy'. From the 'SECONDARY' box, a line leads to a larger box containing a list of conditions: 'found at: -intoxication; -infections; - Hereditary and acquired metabolic diseases; - GIT diseases; etc.'

PRIMARY

SECONDARY

Dilated
cardiomyopathy

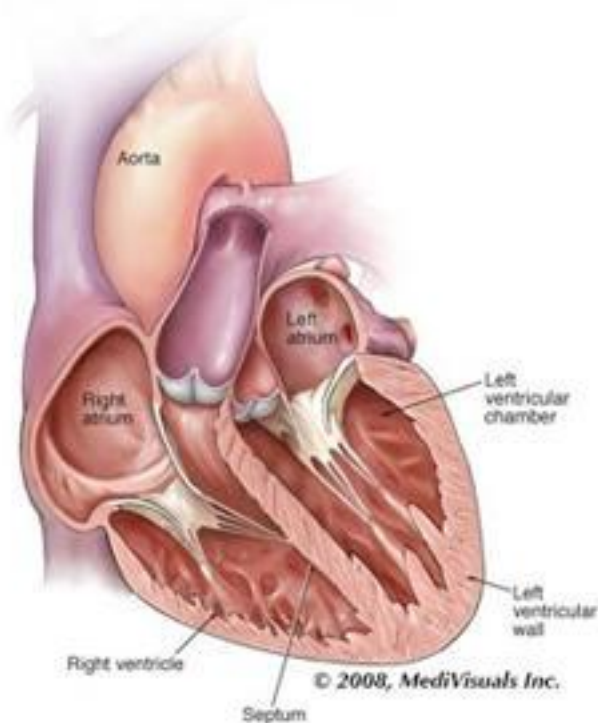
Hypertrophic
cardiomyopathy

Restrictive
cardiomyopathy

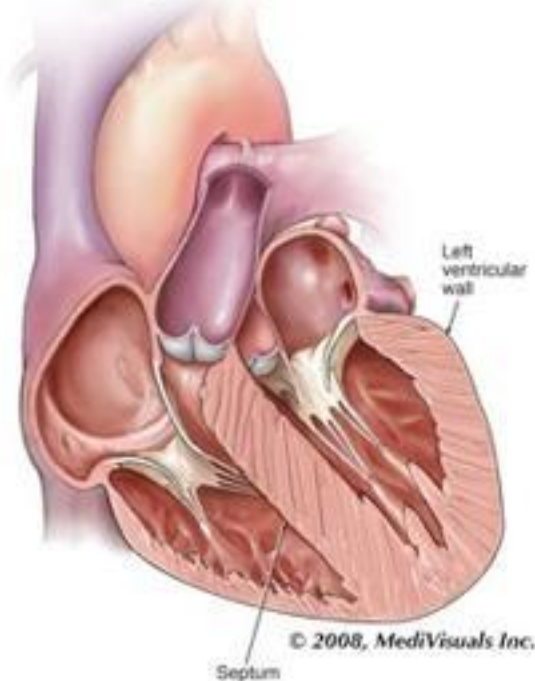
found at:
-intoxication;
-infections;
- Hereditary and
acquired metabolic
diseases;
- GIT diseases; etc.

- **Hypertrophic cardiomyopathy** – is a primary myocardial disease, characterized by local or symmetrical ventricular hypertrophy, diastolic dysfunction, arrhythmias and high risk of sudden death.

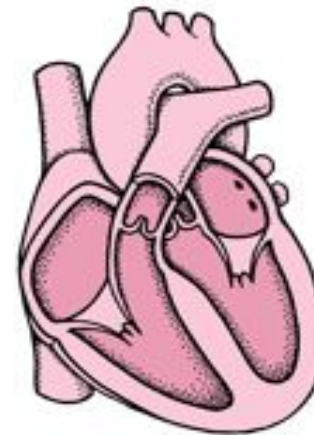
Normal Heart



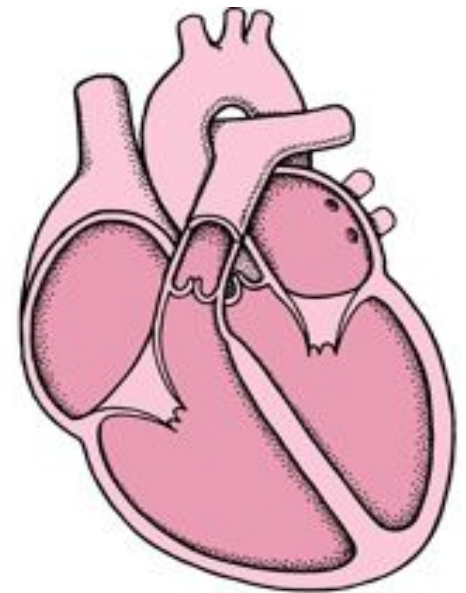
Hypertrophic
Cardiomyopathy



It is characterized by myocardial hypertrophy, abnormal diastolic filling, and in about one third of cases, intermittent ventricular outflow obstruction.

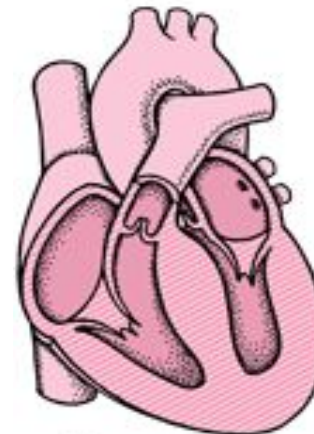


Normal



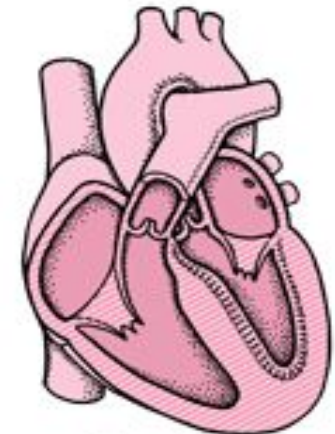
**Dilated
Cardiomyopathy**

The ventricles enlarge.



**Hypertrophic
Cardiomyopathy**

The walls of the ventricles thicken and become stiff.



**Restrictive
Cardiomyopathy**

The walls of the ventricles become stiff, but not necessarily thickened.

Etiology

**Hypertrophic
cardiomyopat
hy**

Inherited

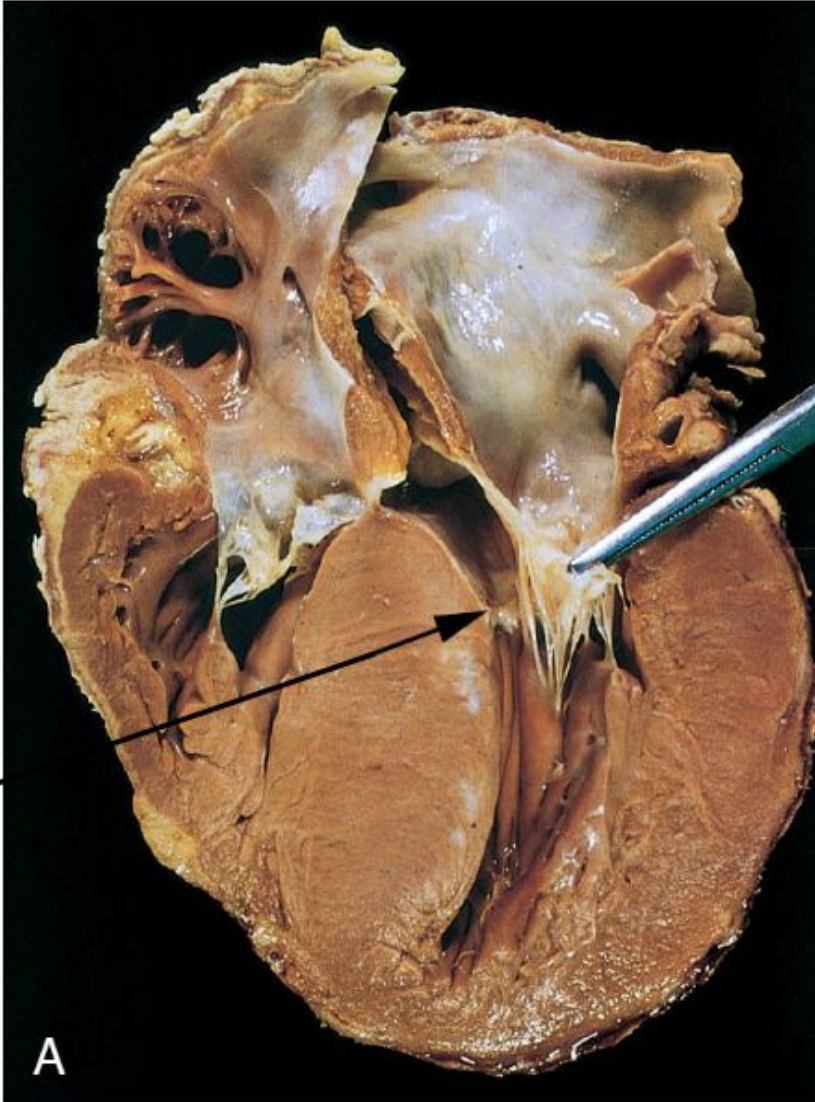
by abnormal genes
(gene mutations) that
cause the heart
muscle to grow
abnormally thick

**Obstructi
ve**

have a form of the disease in which
the wall (septum) between the two
bottom chambers of the heart
(ventricles) becomes enlarged and
impedes blood flow out of the
heart.

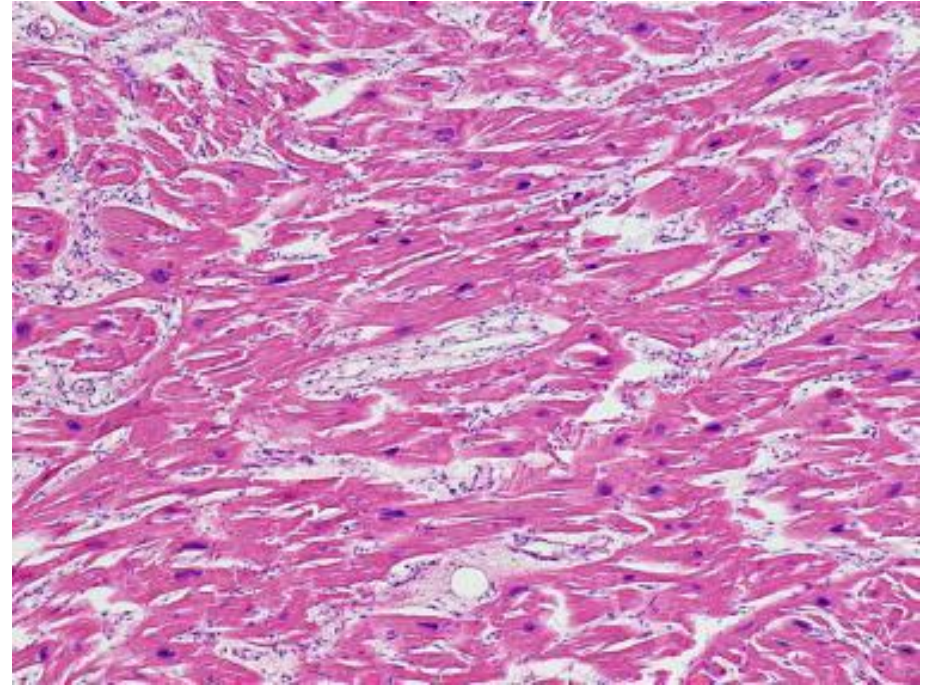
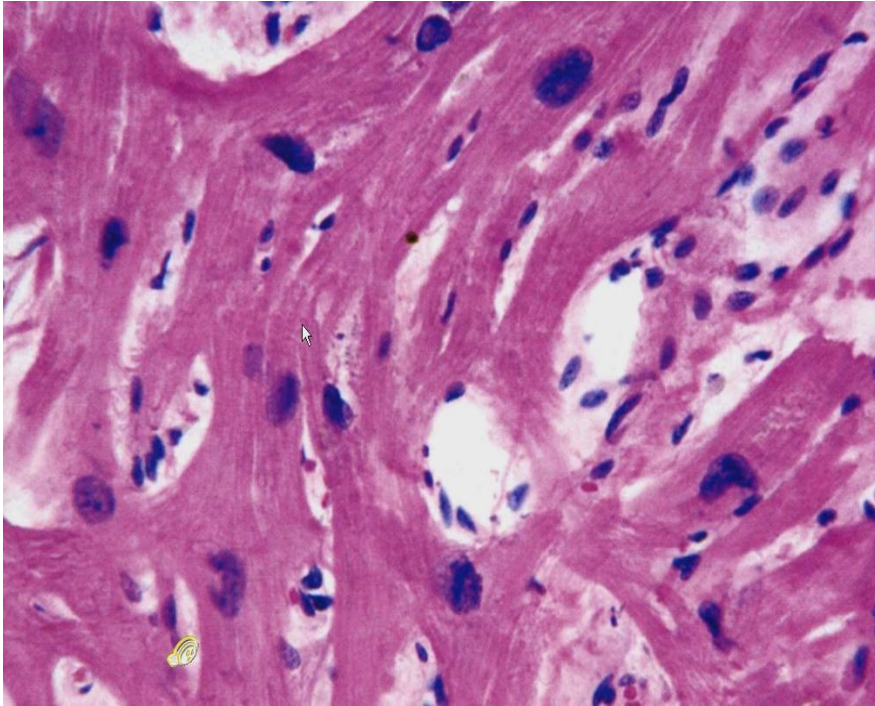
**Non-obst
ructive**

significant blocking of blood flow.
However, the heart's main pumping
chamber (left ventricle) may
become stiff, reducing the amount
of blood the ventricle can hold and
the amount pumped out to the
body with each heartbeat



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- The ventricular cavity loses its usual round-to-ovoid shape and may be compressed into a ‘banana-like’ configuration by bulging of the ventricular septum into the lumen.
- Often present are endocardial thickening or mural plaque formation in the left ventricular outflow tract and thickening of the anterior mitral



- Extensive myocyte hypertrophy with transverse myocyte diameters frequently greater than $40\ \mu\text{m}$ (n: $\sim 15\ \mu\text{m}$)
- Haphazard disarray of bundles of myocytes, individual myocytes, and contractile elements in sarcomeres within cells
- Interstitial and replacement fibrosis

Literature:

- V.Kumar, A.K. Abbas, S.N. Fauso. Pathologic Basis of Disease, 7th edition, 2008 – 1525 p.
- V.V.Serov, V.S.Paukov. Pathological anatomy, 2010 – 800 p.
- R.A.Cooke, B.Stewart. Colour Atlas of Anatomical Pathology, 3rd edition, 2004 – 300 p.



Thank you for
attention!