DIAGNOSIS OF CARDIO-VASCULAR DISEASES

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HENRY IRVING BERGER

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HENRY IRVING BERGER, M. D.

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PREFACE

THE contents of this brochure represents a condensed **"epitomized"** treatise on the subjects of the principal diseases of the heart and blood vessels. The text is simple, concise and destitute of ambiguity. It is, however, resplendent with good common sense, true clinical facts and useful drawings: —all of which considered together forms a very useful, handy and authentic reference on the subject.

Not only will the practitioner of medicine find this brochure to be a valuable aid in **Diagnosis,** but the life insurance examiner will also appreciate its worth after an hour's reading. The subject on blood-pressure is remarkably interesting, both from a diagnostic and from a financial standpoint (in life insurance companies). Theory is banished from this work and it may be verily said admirably suitable for **"practical purposes."**

It is the sincere hope that this little monograph will attract the attention of the entire medical fraternity, and that they will appreciate the efforts of the Sultan Drug Co. in their manifest desires to co-operate with the medical profession towards medical progress. This complimentary contribution to medical literature represents an outlay of a considerable sum of money, exhaustive clinical study and references from the leading authorities on the subject.

HENRY I. BERGER, M. D.

Indianapolis, Ind.

ANATOMICAL REMINDERS IN THE DIAGNOSIS OF THE DISEASES OF THE HEART

1. The **pericardium** is a closed sac capable of being distended by fluid. The average quantity of fluid that can be contained within the sac is one pint. The displacement of the heart in pericardial effusion is directly due to the distensibility of the sac and also to the extent of its attachment to the base of the heart and the great vessels.

2. The **position of the heart** changes with position of the patient, except in cases where the pericardium is involved by adhesions.

3. The heart being attached to the central tendon of the diaphragm, causes the heart to go lower with each inspiratory (downward) movement of the diaphragm. On standing, the heart is also on a lower level. It can be easily proven by a fluoroscopic examination.

4. The **size of the heart** is determined by percussion. We recognize "superficial dulness" as the dulness obtained by percussion over that portion of the heart not covered by lung, while percussion over that portion of the heart covered by lung gives the "deep cardiac dulness." We use the combined areas in mapping out the heart.

(a) The **apex** normally lies in the fifth left intercostal space, three inches to the left of the median line and one half inch internal to the nipple line, and only in an area about the size of a fifty cent piece (if heart is normal). The apex may be displaced in many directions. For differential diagnosis of apical displacements, see page 49.

(b) The **right side of the heart:** from a point one half inch from the right sternal border on the upper end of the third costal cartilage draw a line convex to the right to the sixth right costal cartilage.

(c) The **left side of the heart:** from a point one inch from the left sternal border, a little above the third rib, draw a line convex to the left to the apex.

(d) The **lower border of the heart:** from the sixth right costal cartilage draw a line crossing the base of the xiphoid cartilage and thence to the apex.

5. The **heart valves** are located within an ellipse drawn from the upper left corner of the cardiac area to the lower right corner; the order of arrangement being from above downward: P-A-M-T. The initials refer to the pulmonary, aortic, mitral and

tricuspid valves respectively. The **areas of maximum intensity** of **valvular murmurs** are NOT over the anatomical position of the valves. These areas seem to be one in each corner of the cardiac area. See the schematic representation on page 8.

6. The **coronary arteries:** These vessels supply the heart muscle, hence, in cases where a limited amount of blood reaches the heart muscle, as for example, when the coronary arteries are narrowed and hardened by sclerotic changes, we must then expect pathological changes to develop in the myocardium. These are chiefly manifested by **degenerative processes** (see pages 35-36) and by a frequent clinical syndrome called **Angina Pectoris.**

Another important anatomical fact in connection with the nutrient arteries of the heart is the fact that these arteries arise from the Sinuses of Valsalva which are located at the very beginning of the aorta, hence it can be readily seen that inflammatory conditions in the aorta (an aortitis) may readily extend into the open coronary vessels. An aortitis may therefore secondarily involve both the semilunar valves and the coronary vessels.

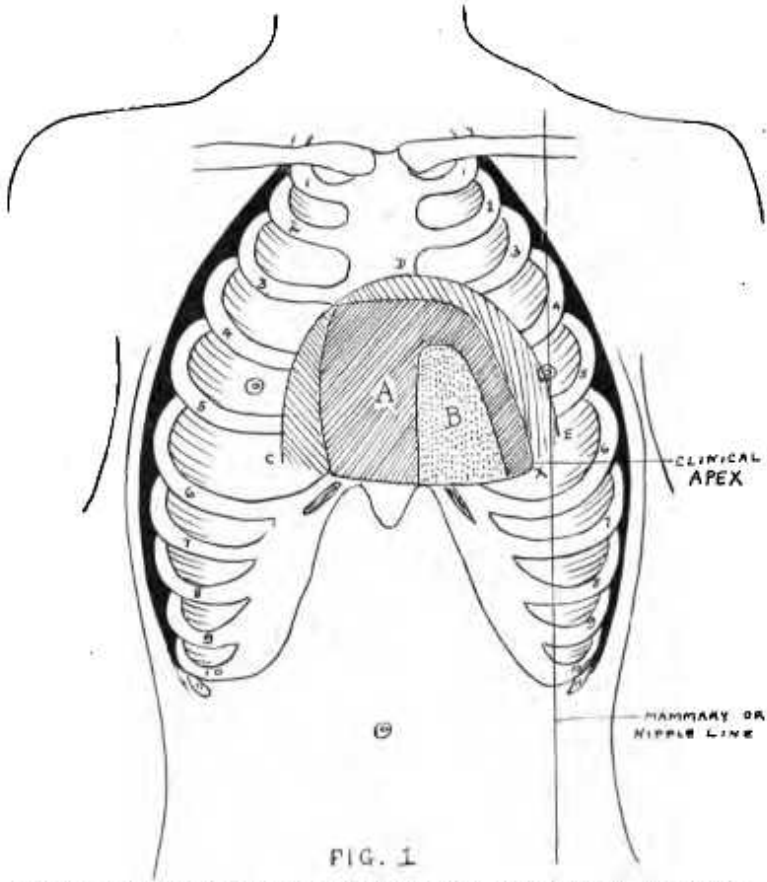

FIG. 1

TOPOGRAPHY OF HEART IN A NORMAL CHEST

A—Deep cardiac dulness.
B—Superficial cardiac dulness.
C D E—area of dulness in a child 7 years old.
X— apex in adult. In children up to 10 years it is in the 4th interspace. Note that the apex is about ½ inch internal to nipple line.
Note: the cardiac dulness below merges into liver dulness.