THORACIC PARASPINAL LINE IN HYPERTENSION AND MITRAL VALVULAR DISEASE.
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Thoracic paraspinal line produced by the posteromedial border of the
left lung casts a linear shadow running along the left side of thoracic
spine from the level of D4 to D11 or D12 vertebra medial to the shadow
of descending thoracic aorta. Thoracic paraspinal line (T.P.L.) is
altered in a variety of disease processes affecting the spine, ribs,
pleura and mediastinum. In this study 100 cases of mitral valvular
disease and 50 cases of hypertension are analyzed for changes in the
thoracic paraspinal line. In all cases in addition to other clinical and
roentgen studies, dorsal spine X-ray in the antero-posterior projection
was obtained. It was found that in 80% cases of mitral valvular disease,
T.P.L. and aortic shadow showed lateral deviation. Size of mediastinum
and type of left atrial enlargement possibly determines the presence of
these changes in the majority and absence of these changes in a small
number of these cases. These changes though additional but are only
subsidiary sign of left atrial enlargement. In hypertension the degree
of lateral deviation of descending aorta and T.P.L. was found to be
directly proportional to the degree of hypertension. These changes are
useful in evaluation of hypertension only in young patients below the
age of forty.

STUDIES ON THE EFFECTS OF GLUCAGON ON OUABAIN-INDUCED CARDIAC DISORDERS
USING PISA METHOD. M.M. Gupta**, K. Prasad* and G. Anyeung**. College of
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Conventional ECC has been used to detect drug-induced electro-
physiologic disturbances in the heart, however, this has certain
limitations in early detection and quantification of the disorder. The
authors have developed a new system PISA (Phase-Invariant Signature
Algorithm) for the early detection and quantification of cardiac
disorders using broad band ECG signals. The purpose of this paper is to
present the application of this technique in the early detection and
quantification of the effects of glucagon on the ouabain-induced cardiac
disorders. Ouabain in the doses of 20, 30 and 40 μg/kg each in 5
anaesthetized dogs was given intravenously and the broad band ECGs were
recorded on magnetic tape. The records were analyzed for PISA signature
and indices. There was a dose-dependent increase in the PISA index.
Ouabain, 20 μg/kg, did not produce any observable change in the
conventional ECC although it produced a significant change in the PISA
index. Glucagon, 50 μg/kg, reversed the effects of ouabain on the PISA
index. These results indicate that the PISA method has the capability
of early detection and quantification of drug-induced cardiac disorder.
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