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Imaging of Diseases of the Chest

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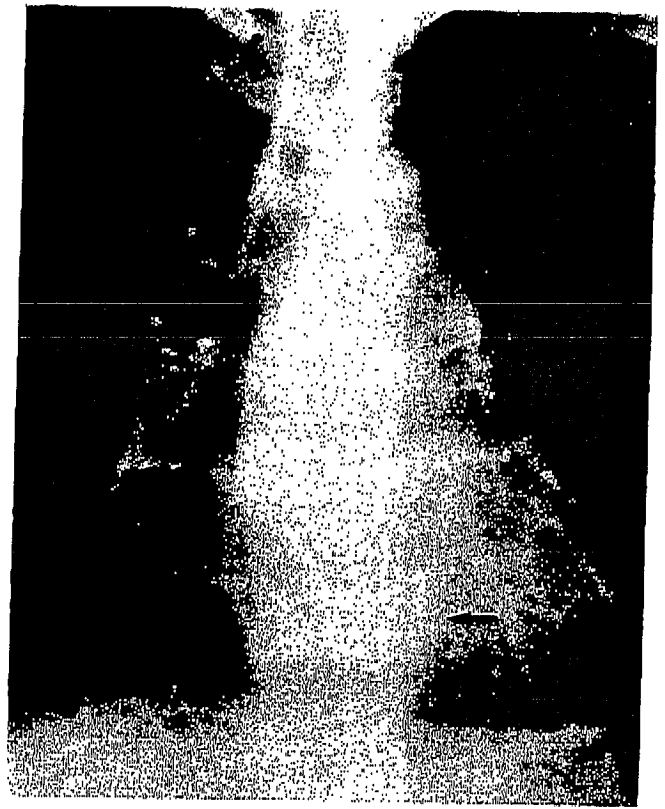
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FIG 15-49.
Enlarged paraesophageal and posterior mediastinal lymph nodes (arrow) in a patient with Hodgkin's disease.



It may, at times, be very difficult to distinguish enlarged hilar lymph nodes from the enlargement of the hilar arteries resulting from pulmonary hypertension (Fig 15-53). The analysis should center on determining whether the enlargement is truly centered on the pulmonary arteries (any mass in a site that is normally devoid of vessels would clearly favor the diagnosis of lymphadenopathy) and on evaluating the degree of lobulation, because the central pulmonary arteries, even when large, should retain their basically tubular configuration.

Computed Tomography.—The CT signs of lymphadenopathy are an increase in size of the nodes, focal bulges or lobulations of the mediastinum-lung interface, recognizable invasion of surrounding mediastinal fat, coalescence of enlarged nodes to form larger masses, and diffuse soft tissue density throughout the mediastinum obliterating the mediastinal fat. In general, the detection of lymph node enlargement depends on recognizing round or oval soft-tissue densities in the mediastinum or hili that are not the result of vascular structures (Fig 15-54). This distinction requires a secure knowledge of the normal arrangement of blood vessels and an understanding of the various anomalies and

variations in the arrangement of the mediastinal vessels. Enhancement with intravenous contrast material may be needed to help distinguish vessels from lymph nodes in selected cases.

To date, three series have measured normal lymph node size at CT scanning.^{107, 110, 262} In summary, they showed that nodes less than 10 mm in short-axis diameter lie within the 95th percentile and should be considered normal. Nodes between 10 and 15 mm in short-axis diameter occur in certain sites, notably the subcarinal and tracheobronchial regions, in 5% to 7% of healthy subjects. Short-axis diameter is the standard measurement because it shows the best correlation with lymph node volume at autopsy.²⁴⁷

It is easier to identify and measure right-sided mediastinal lymph nodes than to evaluate the left-sided nodes, because of the more abundant mediastinal fat and less complex vascular anatomy on the right side.²⁴⁷ Two regions that are frequently difficult to analyze are the subcarinal and hilar areas.

The cardinal signs of subcarinal lymph node enlargement at CT (Fig 15-55) are (1) a soft tissue mass between the esophagus and either the left atrium or the intramediastinal portions of the right or left pulmonary arteries, and (2) a soft tissue den-