Rheumatoid nodule
Rheumatoid nodules are deeply seated firm masses that occur in patients with rheumatoid arthritis, particularly over joint surfaces and extensor tendons. They are often found in patients treated with methotrexate. This presentation has been termed accelerated rheumatoid nodulosis.
The term rheumatoid nodulosis has been proposed for the clinical presentation of multiple nodules on the hands and elbows in patients without rheumatoid arthritis. However, it is not as common as in patients with rheumatoid arthritis.
Pseudorheumatoid nodule: a term that has been applied to nodules in the subcutis that mimic rheumatoid
Histopathology
Rheumatoid nodules occur in the subcutis and deep dermis. They exhibit one or several areas of fibrinoid degeneration of collagen. Typically, nodules are present in 50% of biopsies. In the surrounding stroma, there is a proliferation of blood vessels associated with fibrosis. A sparse infiltrate of other inflammatory cells is associated with the histiocytes and surrounding stroma. Lymphocytes, plasma cells, and eosinophils may be present. Occasionally, lipid is seen. Vasculitis has been described but is
not usually encountered. In perforating rheumatoid nodules, the central fibrinoid material connects to the skin surface.

Pathogenesis. Factors that have been implicated in the formation of rheumatoid nodules include trauma, vasculitis, and a specific T-cell-mediated immune reaction.
Differential Diagnosis. The principal differential diagnosis is subcutaneous granuloma annulare, which was discussed in the section on granuloma annulare. A distinction should be made from epithelioid sarcoma, which was also covered in that section. Nonabsorbable sutures or other foreign material may produce periarticular palisaded granulomas like those of rheumatoid nodule; in such instances, there should be a history of previous surgery or trauma, and birefringent material may be visible under polarized light. Rheumatic fever produces nodules (rheumatic nodules), especially over the elbows, knees, scalp, knuckles, ankles, and spine, which were confused with rheumatoid nodules in the early part of the 20th century.

Histologically, a rheumatic fever nodule is less likely to show central, homogeneous fibrinoid necrosis. A palisade of histiocytes is usually not as well developed, and fibrosis is minimal or absent. Rarely, an infectious process, such as cryptococcosis, can produce a deep, palisaded granuloma. It can be differentiated from rheumatoid nodule because the palisade surrounds primarily necrotic debris and organisms rather than fibrinoid material.