Synovial Sarcoma

The synovial sarcoma is the fourth most common soft tissue sarcoma seen in the human anatomy. It occurs typically in young adults between the ages of 15 and 35 years, affecting males slightly more than females. The name, synovial sarcoma, suggests an origin in synovial tissue within a major joint. This is inaccurate because only 10 per cent of these tumors will be found inside a major joint. They usually occur in juxta-articular structures, such as tendon sheathes, bursal sacs, and fascial planes, most often around the knee. They can also occur in deep muscle bellies. These tumors are also commonly seen about the thigh, shoulder, arm, elbow and wrist area, and also in the foot. The synovial sarcoma is unusual in that it usually starts off with a very slow growth pattern that may suggest a benign process masquerading as an injury to the extremities. In many cases there is dystrophic calcification or even heterotopic bone within the tumor, again suggesting a benign diagnosis. Thinking the process to be benign, clinicians frequently inject it for symptomatic relief.

Microscopically, this tumor has a characteristic biphasic pattern with a combination of epithelioid-looking cells that form in nests, clefts, or even in a tubular structure formation associated with malignant-appearing spindle cells in the same area. The monophasic form of this sarcoma, usually a spindle cell form, has the appearance of a fibrosarcoma. There is also an epithelioid form of the synovial sarcoma but it is quite unusual. Despite the benign clinical appearance of this tumor, the prognosis for survival is very poor, with only about 50 per cent of patients surviving for five years and only 25 per cent surviving ten years. There is a high (20 per cent) incidence of metastatic involvement of proximal lymph nodes that should be looked for and treated by aggressive resection and local radiation therapy. In about 30 per cent of cases, there is heavy calcification and even ossification within the tumor that indicates a more benign prognosis with an 80 per cent survival rate at five years.

The treatment for this tumor consists of wide local resection, if possible, or high-level amputation for cases where local control is difficult. Following wide resection, local radiation therapy is employed. If the prognosis seems extremely guarded, chemotherapy is indicated.