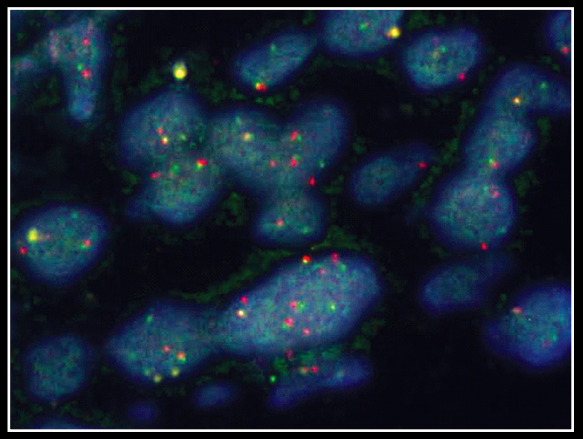
Molecular Cytogenetics by Fluorescence in situ hybridization (FISH):



FISH analysis was performed with dual color dual fusion Cytotest probe. The protocol involved use of 3-5µ FFPE tissue section from the skin nodule block. After nessasary procedure the slides were probed with EWSR break-apart probe, hybridized overnight, and examined microscopically. Flourscent signals from 100 cells were analyzed and counted accordingly. FISH analysis revealed translocation related to EWSR 1 gene found in 61.5% of the interphase cell studies.

FINAL DIAGNOSIS

Skin Nodule, core biopsy: Metastatic small round cell tumor compatible with Ewing's sarcoma/ PNET family of tumors.

DISCUSSION

Ewing's family of tumors includes ES and PNETs. They are small round cell undifferentiated neoplasms, arising from flat bones and diaphyseal regions of long bones. It is commonly found in first two decades of life. ES of chest wall is also known as Askin Rosai tumor. ES/PNET presents clinically with swelling and pain at the site of tumor. Radiologically, lytic or mixed lytic and sclerotic lesions are often seen with a soft tissue component. Histopathologically, it comprises of sheets of small round cells with scanty cytoplasm and vesicular nuclei. Common sites of metastasis are lung, pleura, and other bones. Less commonly lymph nodes, bone marrow, central nervous system, and liver may also be involved.[6]

Cutaneous metastasis is rare. It occurs in upto 9% of all patients with cancer.[7] This may be the first sign of visceral malignancy or may develop at recurrence. They appear as non-specific painless dermal or subcutaneous nodules with intact overlying epidermis. These may be flesh colored, pink violaceous, or brownish black. These are often stony hard on palpation and may become necrotic or ulcerated. Growth pattern of cutaneous metastasis is unpredictable and may not reflect that of primary tumor. They have even been documented to occur within radiation sites. Depending upon the mode of spread, localization of these may differ. Tumors that tend to invade veins often present as distant cutaneous metastasis. In a thirty-year study at St. Jude's Children Research Hospital, Memphis, out of 197 cases of non-hematological malignancies, only 34 cases were reported to have developed cutaneous metastasis of which two were of Ewing's sarcoma.[8] Similarly Izquierdo