



Fine Needle Aspiration: Insulin-dependent Abdominal Mass

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Disclosure: I do not have any affiliations or financial interests in any of the corporate organizations involved with the products to which my case study will refer.

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Review the Case Study and visit the ASC Web site (cytopathology.org) to take the test for Continuing Education Credits.

Figure 1: Abdominal mass, fine needle aspiration: Papanicolaou-stain, 10x.

Figures 2: Abdominal mass, fine needle aspiration: Papanicolaou-stain, 40x.

Figures 3: Abdominal mass, fine needle aspiration: Papanicolaou-stain, 40x.

Clinical History

Patient: A 34-year-old female with a fourteen-year history of associated genetic syndrome & insulin-dependent diabetes who presents with a subcutaneous mass of the anterior abdominal wall. The patient adjusts her own insulin and injects her insulin using a syringe. The patient presented with symptoms of intermittent nausea, vomiting, low-grade fever, associated with headache and generalized fatigue. The fever has recurred over the past ten months without a clear nidus of infection.

Past Medical History: In the past year, the patient had traveled to the South Western United States. After returning, she developed what she described as a flu-like illness with temperatures up to 101° Fahrenheit. This was associated with nausea and vomiting. The patient was given IV Bactrim as therapy and then went home on oral Bactrim. As long as she was on antimicrobials, she felt well; however within three days of stopping the medication, her fevers returned up to 100-101°F. Over the past ten months, she continues to feel well whenever she is on antimicrobials, which she takes about every three weeks. Other past related patient history includes renal manifestations, hyperlipidemia and hypertension related to the diabetes. The patient also has a history of latent tuberculosis.

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Physical Exam: During consultation for the above medical concerns, two bands of significant soft tissue stranding in the abdomen, near the patient’s insulin injection sites, were noted. Slight tenderness to deep palpation was noted. Interpretation from the radiologist was one of inquiry in the patient setting, as this finding is very unusual in a diabetic patient. One rare, but possible, cause in the differential diagnosis includes mycosis fungoides. The patient did provide insight that she does inject insulin along the two bands. She had no erythema, tenderness, or swelling in this area. This area has not changed over the last several years. The patient did note that recently she had begun injecting insulin into a new site, which had provided more rapid absorption and required far less insulin.

A fine needle aspiration biopsy of the firm, nodular infiltration from the anterior aspect of abdominal wall subcutaneous tissue mass was performed.

Fine Needle Aspiration and Cell Block Findings

The fine needle aspiration slides were paucicellular, with a clean, non-inflammatory background. Also noted in the background were polychromatic (eosinophilic to dense blue) amorphous waxy aggregates or plaques (*Figures 1-4*). The material on the cell block had a similar waxy configuration which appeared brightly eosinophilic with the hematoxylin and eosin stain (*Figure 5*). ■

Figures 4: Abdominal mass, fine needle aspiration: Papanicolaou-stain, 40x.

Figure 5: Abdominal mass, fine needle aspiration: Cell Block, hematoxylin and eosin stain, 40x.



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