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## Effusion in an Elderly Woman

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**Figure 1:** ThinPrep, 400X, Pleomorphic malignant cells with loose diathesis

**Figure 2:** ThinPrep, 400X, Rare "orangeophilic" keratinized cells

**Figure 3:** ThinPrep, 400X, Mitotically active malignant cells

**Figure 4:** H&E Cellblock, 400X, Cellular bridging and abundant vacuolated cytoplasm

**Figure 5:** CK5, 400X, Cytoplasmic staining

**Figure 6:** p63, 400X, Nuclear staining

**Figure 7:** p16, 400X, Nuclear and cytoplasmic staining

**Disclosure:** We 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.

The American Society of Cytopathology is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

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This program is approved for continuing education credits in the State of Florida for one credit and the State of California for ½ credit.

Review the [Case Study](#) and visit the [ASC Web site](#) to take the test for Continuing Education Credits.

### Clinical History

A 79-year old female presents with large bilateral pleural effusions. A total of 500 cc of serosanguineous fluid is removed and sent to the cytology laboratory.

### Cytopathology Features

The pleural fluid was prepared in the cytology laboratory according to department guidelines. ThinPrep® (TP) images are provided for review. The specimen was cellular with cohesive clusters of rounded epithelial cells with well-defined dense but vacuolated cytoplasm, associated neutrophils, and clinging diathesis (*Figure 1*). Rare cells were orangeophilic (*Figure 2*). Nuclei showed marked anisonucleosis, irregular nuclear contours, single or multiple prominent/macro nucleoli, and mitotic activity (*Figure 3*).

Cell block material demonstrated cohesive clusters of epithelioid cells with intercellular bridging, abundant dense but vacuolated cytoplasm, and extracellular keratin material (*Figure 4*). Immunostains performed on cell block material showed the following results on the malignant cells (*Figures 5-7*).

