Reactive Changes and Organisms

INTRODUCTION

Any non-neoplastic findings and organisms in a Pap test, without cellular changes of preneoplasia or neoplasia, are mentioned under the interpretation/result category of "negative for intra-epithelial lesion or malignancy."

NONNEOPLASTIC FINDINGS

• Reactive changes associated with inflammation, repair, and intrauterine device (IUD).
• Organisms.
• Glandular cells status–post-hysterectomy.
• Atrophy.
• Other nonneoplastic findings.

Reactive Squamous Cells (Fig. 8.1)

• Nuclei enlarged (approximately two times intermediate cell nuclei), round with smooth contours, mild hyperchromasia, and eosinophilia.
• Binucleation.
• Nucleoli may be prominent.
• Cytoplasm with small perinuclear halos.
• Polychromasia.

Cytological Features of Repair and Regeneration (Fig. 8.2)

• Epithelial regeneration in response to persistent irritation.
• Two-dimensional flat cohesive sheets with no overlapping "streaming effect."
• Cells aligned in the same direction with a "school of fish appearance."
• Cells are enlarged.
• Well-defined cell borders.
• Single cells are rare.
• Low nuclear-to-cytoplasmic (n:c) ratio.
• Nuclei are enlarged and rounded with a smooth membrane, and may be multiple in number.
• Fine chromatin.
• Nucleoli are single or multiple and prominent.
• Cytoplasm is abundant, cyanophilic or polychromatic, and vacuolated.
• Mitoses present.
• Neutrophils are often present.
• May mimic neoplastic lesions.
Fig. 8.1. Reactive regenerative cells. Note the uniform nuclei with nucleoli and mitoses (ThinPrep; Papanicolaou stain).

Fig. 8.2. Reactive reparative cells. Cohesive sheet of cells with “streaming” effect (SurePath; Papanicolaou stain).