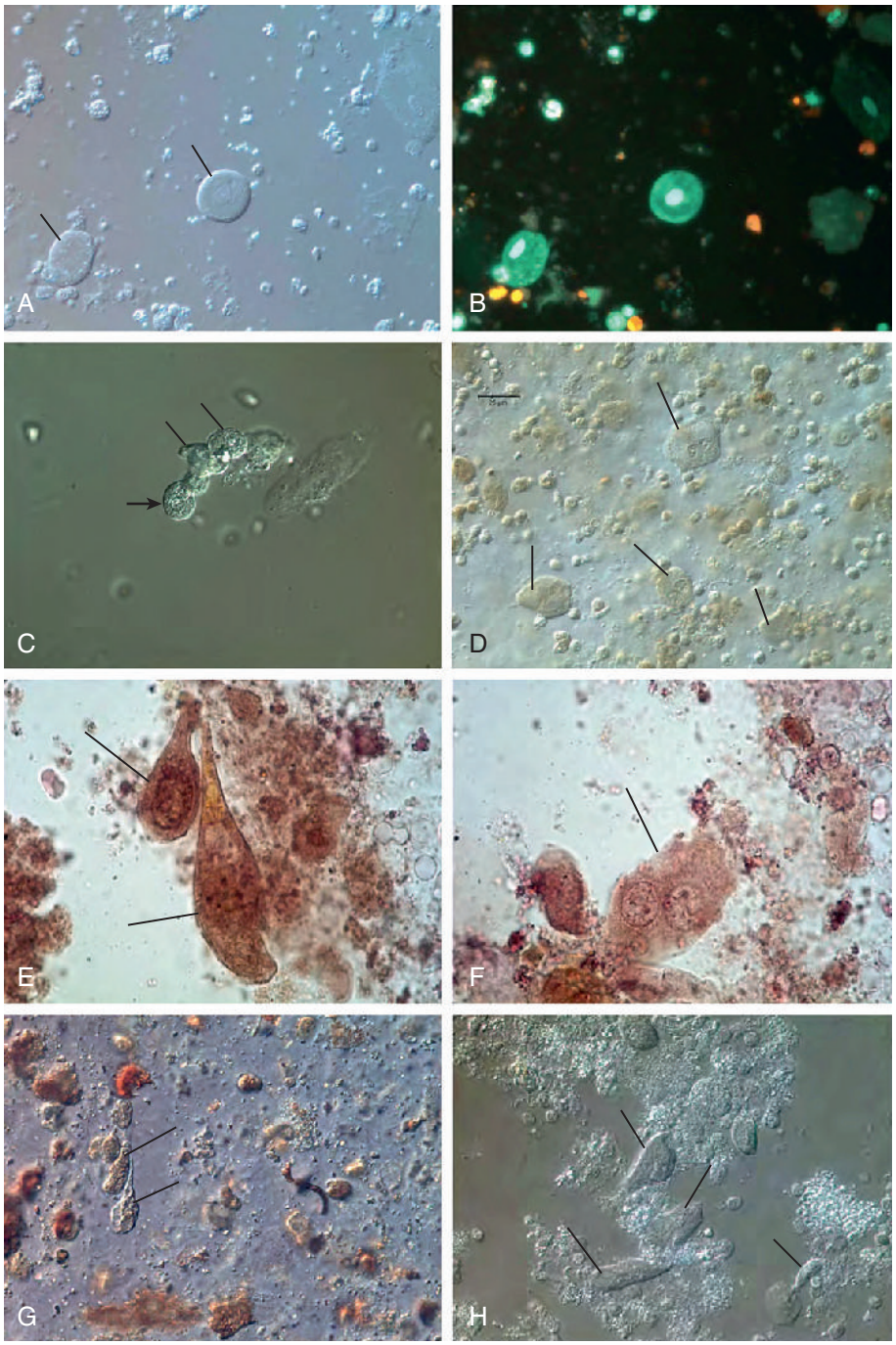


**FIGURE 26-3** Tubular cells often found in urine of patients with acute kidney injury. **A**, Unstained urine sediment (40× objective) in a patient recovering from acute tubular necrosis (ATN). *Solid lines* show intact renal tubular epithelial cells. **B**, Same specimen as in **A** but stained with acridine orange-propidium iodide and viewed with a triple excitation band fluorescence filter (triple-cube). Red cells are dead and green cells are live. Both tubular cells appear viable. Smaller cells are leukocytes. **C**, Unstained urine sediment (40×) shows several renal tubular cells that appear monomorphic (as in images **A** and **B**), indicating acute tubular injury. The *arrow* indicates a binucleate tubular cell. **D**, Unstained urine sediment (40×) shows several renal tubular cells *(solid lines)* that appear dysmorphic. Instead of being round, the cells are angular. Furthermore, these cells are multinucleated, indicating failure of the cell to divide. Large numbers of dysmorphic renal tubular cells are often seen if the acute tubular injury is substantial. **E**, Unstained urine sediment (100×) shows two teardrop-shaped dysmorphic renal tubular epithelial cells *(solid lines)*. Because the patient had jaundice, the cells appear to have a color despite lack of staining. **F**, Unstained urine sediment (100×) shows one dysmorphic, binucleate renal tubular epithelial cell *(line)*. This is the same patient as in **E**. **G**, Unstained urine sediment (40×) shows severe ATN. No dirty-brown granular casts were seen, but the tubular cells were dysmorphic *(lines)*. The large amount of granular debris and absence of casts suggests failure to form Tamm-Horsfall protein and more severe tubular injury. This patient also had jaundice, as is evident from the yellow hue. **H**, Unstained urine sediment (40×) shows dysmorphic renal tubular epithelial cells (triangular, cigar-shaped, and polygonous), often multinucleated as denoted by *lines*.