malformations caused by abnormal development, with an incidence of approximately 1 in 4000 to 5000 births (Herman and Teitelbaum, 2012). These malformations may range from simple imperforate anal to include other associated complex anomalies of genitourinary (GU) and pelvic organs, which may require extensive treatment for fecal, urinary, and sexual function. Anorectal malformations may occur in isolation or as a part of the VACTERL association (see earlier in chapter). These anomalies are classified according to the newborn's gender and abnormal anatomic features, including GU defects.

Rectal atresia and stenosis occur when the anal opening appears normal, there is a midline intergluteal groove, and usually no fistula exists between the rectum and urinary tract. **Rectal atresia** is a complete obstruction (inability to pass stool) and requires immediate surgical intervention. **Rectal stenosis** may not become apparent until later in infancy when the infant has a history of difficult stooling, abdominal distention, and ribbonlike stools.

The anus and rectum originate from an embryologic structure called the **cloaca**. Lateral growth of the cloaca forms the urorectal septum that separates the rectum dorsally from the urinary tract ventrally. The rectum and urinary tract separate completely by the seventh week of gestation. A **persistent cloaca** is a complex anorectal malformation in which the rectum, vagina, and urethra drain into a common channel opening into the perineum (Fig. 22-8, *A*).

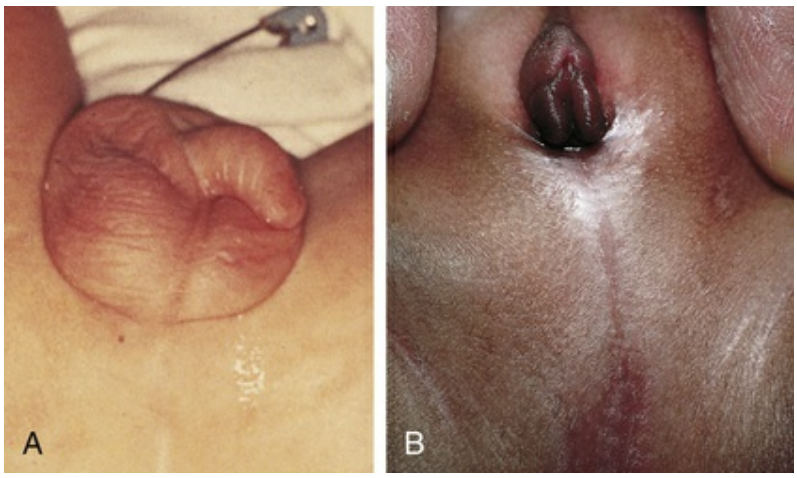


**FIG 22-8** **A,** No visible external opening forms in high imperforate anus defect. Absence of the intergluteal