



REGURGITATION IN NEWBORNS PHYSIOLOGICAL AND PATHOLOGICAL CONDITIONS

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Abstract: Regurgitation is one of the most frequently reported concerns among parents of newborns. While most cases are benign and reflect normal physiological processes, certain patterns of vomiting may indicate underlying pathological conditions requiring medical investigation. This article reviews the mechanisms, clinical features, diagnostic criteria, and management strategies for physiological and pathological regurgitation in newborns.

Introduction: Regurgitation, commonly referred to as spitting up, is a typical occurrence in the neonatal period. It is usually harmless and related to the immaturity of the gastrointestinal (GI) system. However, persistent, forceful, or bilious vomiting can be a sign of serious pathology such as gastrointestinal obstruction, infections, metabolic disorders, or anatomical abnormalities. Distinguishing physiological from pathological regurgitation is crucial for early intervention and prevention of complications.

Physiological Regurgitation in Newborns

1. Etiology physiological regurgitation is primarily attributed to: Immaturity of the lower esophageal sphincter (LES) liquid diet (breast milk/formula) that easily refluxes horizontal positioning of newborns overfeeding it occurs in up to 40-65% of healthy infants during the first months of life [1].
2. Clinical Characteristics physiological regurgitation typically presents with: mild, effortless milk spit-up after feeding normal weight gain and growth parameters no signs of dehydration or systemic illness no discomfort or irritability before or after feeding this condition is self-limiting and usually resolves by 6-12 months of age as LES tone improves.
3. Management Feeding smaller amounts more frequently burping during and after feeds maintaining upright position for 20-30 minutes post-feeding avoiding overfeeding ensuring proper latching during breastfeeding pharmacological therapy is not recommended, as it does not benefit physiological reflux [2].

Pathological regurgitation and vomiting in newborns pathological vomiting may indicate an underlying disorder. key warning signs (red flags) include:

Projectile vomiting, bilious (green) vomiting, poor weight gain or weight loss, lethargy or irritability, abdominal distension, dehydration blood in vomitus, fever or systemic symptoms, below are the common pathological causes.

1. Gastroesophageal reflux disease (GERD) characteristics frequent regurgitation associated with irritability, feeding refusal, poor sleep arching of the back (Sandifer syndrome) poor weight gain diagnosis diagnosis is clinical; in severe cases: pH monitoring or impedance study upper GI series to rule out anatomical disorders management lifestyle modifications (thickened feeds,



positional therapy) pharmacologic treatment (H2 blockers or PPIS) only in confirmed severe GERD

2. Pyloric Stenosis a hypertrophic narrowing of the pylorus, usually appearing at 2-6 weeks of age. Clinical signs progressive projectile, non-bilious vomiting persistent hunger after vomiting visible peristaltic waves palpable olive-shaped mass in the epigastrium hypochloremic, hypokalemic metabolic alkalosis diagnosis

Ultrasound: first-line imaging treatment surgical correction (pyloromyotomy)

3. Intestinal Obstruction includes malrotation with volvulus, duodenal atresia, jejunoileal atresia.

Key symptom bilious (green) vomiting, an emergency sign other signs abdominal distension, failure to pass meconium management immediate surgical evaluation is required [4].

4. Infections Systemic and gastrointestinal infections (sepsis, meningitis, urinary tract infection, gastroenteritis) may present with vomiting. features, fever, poor feeding, lethargy or irritability, diarrhea (in GI infections), management requires urgent pediatric evaluation and targeted treatment.

5. Metabolic Disorders conditions such as galactosemia or urea cycle disorders may present with vomiting in the neonatal period.

Associated symptoms poor feeding lethargy jaundice failure to thrive management immediate metabolic screening and appropriate dietary or medical intervention [5].

Discussion differentiating physiological from pathological regurgitation is essential for timely diagnosis and appropriate management. While most cases are benign, pathological causes may rapidly progress to severe dehydration or life-threatening complications if not recognized early. A comprehensive clinical evaluation, combined with parental education, plays a vital role in improving outcomes [6, 7].

Conclusion: Regurgitation in newborns is often a normal physiological phenomenon resulting from GI immaturity. However, clinicians must remain vigilant for pathological signs that necessitate further investigation and treatment. Educating parents about red flags and proper feeding practices helps reduce anxiety and ensures early medical attention when needed.

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