



A rare genetic disorder that causes **GnRH-independent precocious puberty**, **bone abnormalities**, and **skin changes**. It results from a **mutation in the G-protein signaling pathway**, leading to constant activation of adenylate cyclase and elevated cAMP levels. This overactivity primarily affects cells in the **ovaries, bones, and skin**.

CLINICAL FEATURES

Classic Triad:

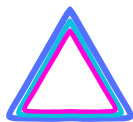
① POLYOSTOTIC FIBROUS DYSPLASIA

Most common feature



② CAFÉ-AU-LAIT MACULES

- Coast of Maine borders
- Never crosses midline



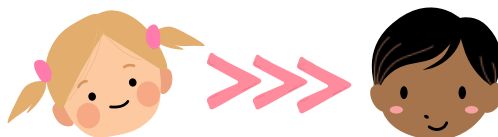
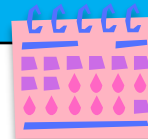
③ PRECOCIOUS GONADARCHE

- Ovarian hyperfunctioning
- Erratic estrogen secretion



Classical presentation:

- Irregular vaginal bleeding
- Recurrent ovarian cysts



Other endocrinopathies:

- Hyperthyroidism
- Cushing syndrome
- Growth hormone excess
- Renal phosphate wasting

DIAGNOSIS

Identification of **key clinical features**



Confirmatory genetic testing for mutation in **GNAS1 gene**

INVESTIGATIONS

- **Imaging studies:** x-rays, CT, MRI to detect fibrous dysplasia. Bone scan to assess skeletal involvement.
- **Hormonal tests:** estrogen, thyroid hormones, cortisol, growth hormone, prolactin, LH, FSH.
- **Metabolic:** hypophosphatemia, hyperphosphaturia.

MANAGEMENT

- **Bone Disease:**
 - **Pain Relief:** NSAIDs, bisphosphonates.
 - **Surgery:** for fractures or severe deformities.
- **Endocrine Issues:**
 - **Precocious Puberty:** aromatase inhibitors.
 - **Hyperthyroidism:** methimazole or thyroidectomy if severe.
 - **Growth Hormone Excess:** somatostatin analogs (e.g., octreotide).
 - **Cushing's:** adrenal inhibitors.
- **Monitoring & Support:**
 - Regular follow-up.
 - Physical therapy and psychological support as needed.



February 2025

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