CONDITION

Epstein pearls

Epstein pearls are harmless, keratin-filled white bumps found in a newborn's mouth.

WHAT IT IS
Benign keratin-filled cysts in a newborn's mouth

BODY SYSTEM
Mouth and gums

MAIN SYMPTOMS
Tiny white or yellow bumps, firm texture, no pain

WHAT CAUSES IT
Trapped cells during mouth development

HOW IT IS DIAGNOSED
Visual examination of the newborn's mouth

MAIN TREATMENT
Observation and routine mouth care

CAN IT BE CURED?
Yes - usually disappear without treatment

IS IT AN EMERGENCY?
No - not by themselves

LONG-TERM OUTLOOK
Complete resolution without lasting effects

Overview

Epstein pearls are tiny white or yellow bumps inside a newborn baby's mouth. They most often appear along the middle of the roof of the mouth, called the palate. They may look like small teeth, spots of milk or blisters.

The bumps are small cysts filled with keratin. Keratin is a protein found in skin, hair and nails. Although the word "cyst" can sound concerning, Epstein pearls are harmless. They are not cancerous, infectious or painful.

Epstein pearls form before birth as the mouth develops. They are commonly noticed during a newborn examination or while a baby is feeding or crying.

They usually break down and disappear on their own during the first weeks or months of life. They do not normally affect feeding, breathing, speech or the development of the teeth.

Treatment is not needed.

Similar newborn mouth cysts may appear on the gums or away from the middle of the palate. These are sometimes called gingival cysts, dental lamina cysts or Bohn nodules. The names refer mainly to where the bumps formed. These conditions are also generally harmless and managed in the same way.

Symptoms

Epstein pearls usually look like one or more round, raised bumps. Typical features include:

A baby may have a single pearl or a small group. The bumps are present at birth or noticed soon afterward.

Epstein pearls do not usually cause symptoms. A baby should be able to feed, swallow and breathe normally. The bumps do not normally bleed or seem tender when the mouth is examined.

Other mouth conditions can look different. Oral thrush, a yeast infection, usually causes broader white patches on the tongue, cheeks or palate. Some patches may wipe away and leave a red surface. Milk residue can also leave a white coating, especially on the tongue, but it generally wipes away more easily.

A natal tooth is a tooth present at birth. Unlike an Epstein pearl, it is hard and tooth-shaped and is often located on the lower front gum. Some natal teeth are loose and need assessment because they can interfere with feeding or become a choking risk.

- White, cream or yellow colouring
- A smooth, firm surface
- A size of only a few millimetres
- A position near the middle of the roof of the mouth
- No redness, swelling or discharge around the bump

Causes and risk factors

Epstein pearls develop while a baby's palate is forming before birth. As the two sides of the palate join, small groups of surface cells can become trapped beneath the lining of the mouth. These cells produce keratin, creating a tiny cyst.

This is a normal developmental event, not the result of an illness. Epstein pearls are not caused

by bacteria, viruses, yeast, food or poor mouth care. They cannot spread from one person to another.

Nothing a parent did during pregnancy causes them. They are not known to result from a particular food, medicine or everyday exposure. They are also not usually an inherited condition passed through families.

Premature and full-term babies can both have newborn oral cysts. Their location and how easily they are noticed may differ, but the expected outcome is the same: they normally disappear naturally.

Diagnosis

A healthcare professional can usually identify Epstein pearls by looking inside the baby's mouth. Their size, colour, texture and position along the palate are often enough to make the diagnosis.

No blood test, scan or other routine test is needed. A biopsy, which involves removing tissue for examination, is not normally appropriate for a typical Epstein pearl.

The examination also helps distinguish the bumps from conditions that may need different care. These include oral thrush, a natal tooth, an injury, an infection and less common mouth growths.

If the appearance is unusual, the bump is growing or the diagnosis is uncertain, the baby may be examined again or referred to a children's doctor, dentist or oral specialist. This does not necessarily mean that anything serious is suspected. It allows the mouth to be checked more closely.

A clear photograph may help show how the bump changes, but a photograph cannot always confirm what it is. Avoid repeatedly pressing or handling the area to inspect it.

Treatment and management

Epstein pearls do not need medical or dental treatment. The lining of the mouth gradually sheds, allowing the trapped keratin to be released. The bump then flattens and disappears.

Do not squeeze, scrape, cut or puncture an Epstein pearl. This will not make it resolve more safely and could cause pain, bleeding or infection. Avoid applying teething gels, antiseptics or home remedies unless a healthcare professional has recommended them for another reason.

Normal feeding can continue. Breast milk, formula and the usual cleaning of feeding equipment

do not make the pearls worse.

Newborns do not need their mouths scrubbed. If you clean around the lips or gums, use gentle care and do not rub the bump. There is no need to try to wipe it away.

A healthcare professional may simply record the finding and check it during routine newborn follow-up. If the bump does not behave as expected, another examination can confirm whether it is an Epstein pearl or a different condition.

Complications

Epstein pearls themselves almost never cause complications. They do not damage the palate or the developing teeth. They also do not turn into cancer or spread elsewhere in the body.

They should not interfere with sucking or swallowing. If a baby is struggling to feed, another cause should be considered rather than assuming an Epstein pearl is responsible.

Trying to remove a pearl at home can injure the delicate lining of a newborn's mouth. This may lead to bleeding, soreness or infection. Leaving the bump alone is the safest approach.

A spot that becomes red, swollen, ulcerated or filled with discharge is not behaving like a typical Epstein pearl. It should be assessed, particularly if the baby also seems unwell.

Prevention

Epstein pearls cannot be prevented. They form naturally as the baby's mouth develops before birth.

Their presence does not mean that prenatal care, nutrition or hygiene was inadequate. No change in feeding, mouth care or future pregnancies is needed because a baby has Epstein pearls.

Although the pearls themselves cannot be prevented, avoiding attempts to squeeze or scrape them can prevent injury to the mouth.

Living with it and what to expect

Epstein pearls are temporary. Many disappear within the first few weeks as the cyst opens naturally and its keratin is shed. Others may remain visible for a few months before resolving.

The bump may seem to shrink, flatten or disappear suddenly. This is expected. You might not notice when it opens because the contents are tiny and harmless.

No scar should remain. Epstein pearls do not affect how the palate grows or where the baby's teeth later appear. They are not associated with ongoing mouth problems, and routine dental care can begin according to the usual schedule for all children.

The pearls are not expected to return once they have resolved. A later white patch or mouth lump should not automatically be assumed to be the same condition, especially if it is painful, spreading or accompanied by other symptoms.

If a bump remains for several months, changes in appearance or is located somewhere unexpected, arrange a routine assessment. Another harmless newborn cyst may be present, but it is useful to confirm the cause.

For most families, Epstein pearls require only reassurance and observation. Feeding, bathing, settling and other daily care can continue normally.

When to get medical help

Mention the bump during a routine newborn or primary care visit if you are unsure what it is. A routine appointment is also appropriate if it has not disappeared after several months or looks different from a typical small, firm white pearl.

Seek prompt medical advice if:

These findings are not typical of Epstein pearls and may have another cause.

Call emergency services if the baby has difficulty breathing, turns blue or grey, becomes unresponsive, has uncontrolled mouth bleeding or appears to be choking. Epstein pearls do not normally cause these symptoms, so emergency assessment is needed to identify the problem.

- The bump grows, bleeds or develops redness or discharge
- White patches spread across the tongue, cheeks or palate
- The baby appears to have pain when feeding
- Feeding becomes difficult or the baby has fewer wet diapers
- A hard or loose tooth-like structure is present
- The baby seems unusually sleepy, irritable or unwell
- A newborn develops a fever

Common questions

Are Epstein pearls dangerous?

No. They are harmless developmental cysts and usually disappear without treatment. They do not become cancerous and do not damage the palate or teeth.

Can Epstein pearls make my baby refuse feeds?

They should not cause pain or interfere with feeding. If your baby is feeding poorly, repeatedly coughing or choking during feeds, or producing fewer wet diapers, seek medical advice rather than assuming the pearl is responsible.

Can I wipe or pop an Epstein pearl?

No. An Epstein pearl is beneath the mouth's surface, so it will not wipe away like milk residue. Squeezing or puncturing it could cause bleeding, pain or infection. It is best left alone.

How long do Epstein pearls last?

They often disappear within weeks, although some remain visible for a few months. Arrange a routine examination if a bump persists, enlarges or changes instead of gradually resolving.

How can I tell Epstein pearls from oral thrush?

Epstein pearls are usually separate, firm bumps near the middle of the palate. Thrush more often causes broader white patches on the tongue, inner cheeks or palate. These patches may leave a red surface when wiped. A healthcare professional can confirm the difference.

Are Epstein pearls baby teeth?

No. Epstein pearls are keratin-filled cysts, not teeth. A tooth present at birth is usually hard, tooth-shaped and found on the front gum. A possible natal tooth should be checked, especially if it is loose or affects feeding.

Sources

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