

Importance of Stool Examination in Babies

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Abstract:

Mala Pariksha (stool examination) has been emphasized as important examination tool after the era of Acharya Yogaratnakara. Before that, in *Samhita Kala*, characteristic of stool has mentioned in scattered manner in the symptomatology of various diseases. In clinical practice, the importance of *Mala Pariksha* has been declined day by day due to the easy availability of other examination tool. But in pediatric age group it is still holding the key role in the way of diagnosis. History taking doesn't have much importance in *Balaroga* (pediatrics). Because Pediatric group cannot complain their pain and discomfort and examiner should gather the information by observation and examination only. So in this paper an attempt has been made to correlate the various stool characteristics with condition of the baby.

Key Words: *Mala Pariksha*, Baby's stool, Stool examination in Infantile Age Group

Introduction:

Mala Pariksha has been emphasized as important examination tools since the era of Acharya Yogaratnakara, during the discussion of *Ashtavidha Pariksha* (eight fold examinations) [1]. Ailments of Pediatric group are so difficult to diagnose, as baby cannot complain their pain and discomfort. In such kind of condition history taking could not be the best way rather examination will be the choice to reached to the confirm diagnosis. [2] Most new parents find baby stool quite surprising. It has so many shades and consistencies that even experienced parents may not have seen them all. Thus an examination by doctor is very important in the pediatrics. Various characteristic of stool and health condition of baby has been discussed in this paper. In infantile age group one should very keen to differentiate the physiological and pathological condition in various areas including stool.

Aims and objectives:

To understand the health conditions of a baby by merely examine the stool.

Material & method:

This article is purely based on information which was collected through various authentic books, journals, and internet. A critical review has been done for this important issue.

Data and discussion:

It is easy way to examine the nappies of baby to get all information regarding the color, consistency and smell of the stool. The photographs may give a better idea of what's normal and what's not, especially when the baby is newborn. As newborn grows, drinks breast milk or formula, and starts eating solids. One should find out when not to worry and when it's wise to be concerned. Some important features of the stool have been discussed underneath.

1. Newborn stool (meconium): Photograph no 1

Newborn's diaper may have greenish-black, tarry, sticky stool that looks like motor oil. Since meconium is made of amniotic fluid, mucus, skin cells, and other substances ingested in utero, it doesn't smell. After 2 to 4 days, stool becomes lighter

in color (sort of an army green) and less sticky. This is called transitional stool which is a sign that breast or formula milk digestion started and intestinal tract is okay.

2. Healthy breastfed stool: Photograph no 2

If baby is exclusively breastfed, stool will be yellow or slightly green and have a mushy or creamy consistency. *Nirama Mala* always suggests the healthy integrity of ones intestine. [3] It could be runny enough to resemble diarrhea. Breastfed stool typically looks like mustard and cheese mixed together and may be dotted with little seed-like flecks and smell isn't so bad. Still there are many shades of normal in breastfed baby. If baby doesn't experience any other symptoms, there's no need to give medications.

Bright green and frothy stool might be due to, too much foremilk (the low calorie milk that comes first in a feeding) and not enough hindmilk (the higher fat and super nutritious). It could mean that mother is not feeding her baby, long enough on each breast. Remedy to this, starting each feeding on the breast ended upon.

3. Healthy formula fed stool: Photograph no 3

Formula-fed babies have pasty, peanut butter-like stool on the brown color spectrum: tan-brown, yellow-brown, or green-brown. It's more pungent than stool from breastfed babies and a little less pungent than stool from babies who are eating solid food.

4. Iron-fortified stool: Photograph no 4

If baby is on an iron supplement, his stool may turn dark green or almost black. This doesn't happen often, but it's a completely normal variation. But if baby is not taking an iron supplement and still stool looks blackish, then it could be melena.

5. Solid-food stool: Photograph no 5

Once baby start changing the input to solid foods (rice cereal, pureed bananas and so on) almost instantly a change in their output can be observed, especially if baby is breastfed. Solid-food stool tends to be brown or dark brown and thicker than peanut butter, but still mushy. It's also smellier.

6. Stool with partially digested food:

Photograph no 6

Stool will have identifiable chunks of food in it or be tinged with a surprising hue of the rainbow, like red, orange or dark blue. Red could mean beets, orange suggests carrots, and dark blue implies grapes (pieces of the skin of grapes could also be there). If dropped in water, stool will sink to the bottom. This is identified as *Sama Mala*. [4] It could happen because certain foods are only partially digestible or travel so quickly through the intestines that they don't break down completely. It also happens when baby eats a lot of one type of food or doesn't chew a mouthful completely before he swallows. This all condition could bring plenty of disease condition in adult, but this could be normal in pediatric age group. The matter of concern is if baby's stool consistently has undigested food in it.

7. Diarrhea: Photograph no 7

In babies, diarrhea is very runny and appears to be made up of water more than solids. It can be yellow, green, or brown and can seep out of the diaper.

Diarrhea can be a sign of an infection or allergy, and if it lasts for a while without being treated, can lead to dehydration. The stages of dehydration can change very rapidly in babies. if baby is 3 months old or younger, has more than two or three diarrhea-filled diapers,[5] or continues having diarrhea for more than a day or two then it must be taken seriously. It is matter of concern if baby's diarrhea contains visible blood or mucus.

8. Constipation: Photograph no 8

In constipated baby's stool will be hard and looks like little pebbles. Baby may be visibly uncomfortable when defecating and the stool may even be tinged with blood from irritating the anus on the way out. One or two pebbly diapers isn't a concern, but if baby has three or more (or if bloody), it's best to attend the problem immediately. Constipation often happens in babies who are being introduced to solid foods, or it can be a sign of milk or soy protein sensitivity or a lack of tolerance to

something in breast milk or formula. It is recommended giving water, juice or honey to move things along. As per Ayurveda it can be taken as *Vata* aggravated stool. [6]

9. Stool with mucus: Photograph no 9

Greenish stool streaked with shiny, glistening strings means there is mucus in it. Mucus in stool is also a sign of an infection or allergy. If it's accompanied by any other symptoms or shows up in baby's diaper for two days or more, it is time to rule out the problems.

10. Bloody stool: Photograph no 10

Sometimes the blood in a baby's stool is bright red, and sometimes it's black (which means it's been digested). Bright red blood can show up in baby stool for a few different reasons.

Normal stool tinged with red blood, which is often a sign of a milk protein allergy

Constipated stool with a hint of red blood, likely a result of tears in the anus or tiny hemorrhoids. Diarrhea mixed with red blood, which can indicate a bacterial infection.

When black blood appears in a baby's diaper usually in little flecks that look like black sesame seeds, it's often because the baby is breastfed and swallowing blood from Mother's cracked and bleeding nipples, it doesn't pose a threat to baby. Still, doctor should make sure that, it's not something more serious, like bleeding from baby's intestines.

Conclusion:

The character of the stool in older children is more variable than in adult. Some healthy children pass frequent, loose stools containing undigested vegetable matter 'toddler's diarrhea'. But the stool of children with celiac disease or cystic fibrosis is bulky, odoriferous and quite characteristic. [7] Thus it is very important for a pediatrician to know that what is normal and what is abnormal (alarming sign) in baby regarding the stool. As initial one or two years of postnatal life are main age for somatic growth, [8] baby requires proportionally more intake during this. That's why; *Acharya* Kashyapa has mentioned the importance of food intake by telling *Ahara*

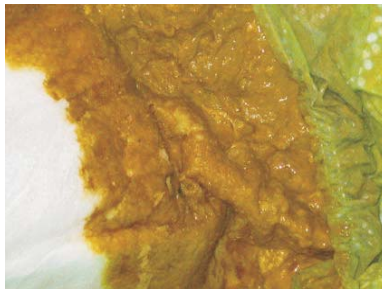
Mahabhaishajam. [9] Amount of intake, Quality of assimilation and status of intestine is very faithfully understood by the examination of stool. Pediatrician should neither act in hurry (in physiological condition) nor delayed (in pathological condition) in the disease of elementary canal. Thus stool examination must be included in the routine practice while examining the infants or young toddlers.

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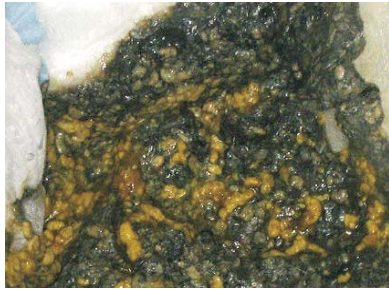
Photograph no 1
Newborn stool (meconium)



Photograph no 2
Healthy breastfed stool



Photograph no 3
Healthy formula fed stool



Photograph no 4
Iron-fortified stool



Photograph no 5
Solid-food stool



Photograph no 6
Stool with partially digested food



Photograph no 7
Diarrhea



Photograph no 8
Constipation



Photograph no 9
Stool with mucus



Photograph no 10
Bloody stool

