**Childhood Illnesses: Fevers and Rashes**

A fever and a rash in your children is an annoying condition which usually needs medical attention. Infectious Diseases account for majority of them with both viral and bacterial agents. Many of these diseases are common but not a threat to health and, recover without sequelae. However, there are conditions we cannot afford to miss. There are others which were common in the past but become rare with successful immunization programs globally e.g. Measles, rubella. I would like to discuss several conditions which are common or serious.

1. **Roseola infantum (玫瑰疹, 幼儿急疹)**

   ![Image 1](image1)

   This disease is quite common and a majority of children suffer it before school age (95% kids suffer before 3 years old) with the peak age being between 6 months to 15 months. It typically presents as an abrupt onset of high fever but the child is relatively alert and active. Mild flu symptoms may be presented (feeling unwell, going off their food because of sore throat). Fever usually lasts for 3-5 days followed by development of non-itchy flat skin rash over the face and body with limbs being relatively spared. The rash usually starts within 1-2 days after fever drops and last for 1-2 days. The child recovers without complications but is not completely immune to the disease as multiple causative agents were identified, despite herpesvirus 6 being the usual one.

2. **Chicken pox (水痘)**

   ![Image 2](image2)

   A very common disease affecting any age of children with 90% cases happening before the age of 14. The child usually presents with fever, itchy skin rash, and perhaps sore throat. The rash starts within 2 days of fever onset as tiny red spots over the face and the body. It spreads rapidly to everywhere in the proceeding days as well as progresses to a bumpy blister which will turn cloudy and then scab/lesion. As new rashes develop continuously, rashes at all different stages are found on the body which is the hallmark of chicken pox.

   Fever usually lasts for 1-2 days but lesions fade after 1-2 weeks. The child is immune to chicken pox after recovery but may develop herpes zoster (帶狀性疱疹, 俗稱生蛇) in the future. However, there are vaccines for both chicken pox and herpes zoster with good protection nowadays.
3. **Hand, Foot and Mouth disease (手足口病)**

Another common condition which typically affects school age children. The child usually presents with abrupt onset of high fever and sore throat or poor appetite. Fever lasts for 2-3 days and then drops. However, throat pain gets worse over this period because multiple sores develop mainly at the back of the throat. Non-itchy red flat skin rash or blister develops over the palm and sole within 1-2 days of fever onset. This rash may also be found on the elbow, buttock, knee or genital area and usually subsides in a week or so. The child gets well gradually but is not immune after the illness. Current evidence suggests more than 10 strains of viruses are causative agents with the most toxic strain being Enterovirus 71 which may cause serious heart and brain complications despite being rare. Signs suggesting infection of brain (Encephalitis) or lining of brain (Meningitis) would be discussed more in the later parts.

4. **Scarlet Fever (猩红热)**

This disease typically affects school age children and presents with intensely sore throat as well as a fever. After 1-2 days of fever, a sandpaper texture intensely itchy red skin rash develops on the trunk and the face is flushed with a characteristic pale ring. The skin rash subsides after 1 week but the skin may peel around the fingers, toes and the groin area and may last for weeks. The tongue is initially covered with a white coating and then becomes bumpy and red (Strawberry Tongue). Although scarlet fever may subside by itself, antibiotic treatment (10 day course of penicillin) is advised to speed up recovery and reduce complications involving the heart and kidneys in later life. The child is noncontagous 24 hours after starting antibiotics, and
immune to the disease after recovery although recurrent cases have been reported.

5. **Meningococcal meningitis** (流行性腦膜炎)

This disease is not common but it is a life threatening condition. Even when it is diagnosed early and an adequate treatment is started, 5-10 % of patients die and 10-20 % survivors may suffer from brain damage, hearing loss or learning difficulties. Nonetheless, prompt treatment does reduce mortality and complications. The child affected is usually between 2-10 years old and presents with sudden onset of high fever and symptoms of meningitis:

a. Irritation or confusion,

b. Neck stiffness,

c. Fear of light,

d. Convulsions.

![Meningitis rash](image)

Fig. 8

There is a characteristic purpuric rash, which could be found anywhere on the body, in 80% of paediatric cases. The rash does not fade when pressed (nonblanchable) and it is possible to employ a test "glass test" telling us: By placing a clear glass firmly on the rash and looking for a sign of fading. If it does not fade, the rash is nonblanchable which is an alarming sign of the disease. However, Parents are advised to bring the child to hospital promptly if there are symptoms of meningitis even in the absence of the rash. Nowadays, there are vaccines to immunize against the disease and is included in the routine immunization program of many countries, including China.

6. **Kawasaki’s disease** (川崎病)

This disease is not common yet a clear causative agent has been identified. It is believed not to be contagious. It usually affects Asian children under 5 years old and presents with a sudden onset of high fever (above 39 degrees Celsius) for more than 5 days which responds poorly to treatment (even with antibiotics). The rash is itchy and raised (but does not blister) this starts on day 5 with fever in the genital area and spreads to other body parts. Other symptoms include:

a. Red swollen skin over hands and feet, red eye,

b. Cracked lips,

c. Bumpy and red tongue (Strawberry tongue),

d. Multiple lumps over neck (Lymph Node).

The diagnosis is made by clinical judgement but affected children should be taken to hospital urgently to prevent serious complications involving the heart. Most children recover fully (95%) with prompt and correct treatment but further heart assessment is recommended after recovery.

6. **Measles (麻疹), Rubella (德國麻疹)**

These diseases are rarely seen nowadays because of a successful immunization program. Children with Measles present with a sudden onset of high fever which may increase up to 40 degrees Celsius within the following days. It can also cause a runny nose, dry cough and red eye (conjunctivitis). A characteristic tiny white spot may develop in the mouth 2-3
days after onset of fever. A skin rash develops 3-4 days after onset of fever which starts with red spot on the face. It then spreads to the body and limbs and the rashes join together these fade by the third day and the child gets well gradually.

Rubella is a mild disease and is sometimes unnoticed. The child may present with mild symptoms such as low grade fever, fatigue, a runny nose, and coughing. There may be a lot of smaller lumps (lymph node) found especially behind the ears, below the skull at the back of head. Red pink tiny spots usually occurs initially on the face and then progress to head, trunk, and feet. The rash fades by the third day. The child is immune to these diseases after recovering.

**Conclusion**

Many illness that present a fever and a rash could be diagnosed clinically without sophisticated investigation. The aim of this article is to relieve parent’s anxiety by giving a brief idea of the above mentioned diseases. Parents are still advised to seek medical help for children suffering from any condition that presents both a fever and a rash. Red flag signs like convulsions, confusion, neck stiffness, fear of light, as well as prolonged fever merit emergency admission and assessment by medical professionals.

Prevention is always more important in dealing with these diseases. Parents are advised to instill good hygiene concepts and healthy diets, as well as regular exercise and strive to make these habits during childhood.

**Reference**

Fig 1, 3, 4, 5, 6, 7, 8 from 小兒科感染病學入門 作者 / 陳德輝.  
Fig 2, 9 from http://www.cdc.gov.

**Writer:** Chi Man Ko  