DENGUE FEVER IN FAMILY PRACTICE: MISCONCEPTIONS AND MISINTERPRETATION

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Misconceptions & misinterpretation in Dengue fever

- Fatality of dengue fever
- Fever and critical period
- Atypical presentations
- Concomitant surgery or surgical interference
- Investigations
- Treatment

A. Fatality of Dengue fever – Is it a dangerous disease?

- Not at all. There is nothing to be apprehensive about the fatality of the disease
- Because of the misconceptions about the severity of the disease, till today, many people are very worried, as if this is a death penalty
- Mortality rate in DHF is around 5 to 10 % , varies from country to country. But, now a days, it is not true
- If treated properly, cure rate is nearly 100%. In my experience, mortality is very vey low

B. Fever & the 'critical period'

- Fever usually persists for 5 to 6 days, followed by complete remission
- In few cases, there may be recurrence of fever after 2 to 3 days (biphasic or saddle back)
- However, with the remission of fever, real problems may occur – which is called the '**critical period'.**
- As the fever subsides after 5 days, the patient may feel, I am fine or even the doctor may think, there is nothing, if he is not aware about the critical period. But this period is dangerous

B. Fever & the 'critical period' (contd)

- During this period, platelet count starts to fall , may be very low, specially in DHF
- Many complications including haemorrhage from different sites such as haematemesis, melaena , epistaxis, even DSS may occur
- So, the patient and every physician must be cautious during this **critical** period

C. Atypical Presentations

- Dengue fever has variable clinical spectrum ranging from asymptomatic infection to life threatening DHF and DSS
- In many patients, typical features of dengue fever may not be present

Atypical Presentations (contd)

- In some cases, fever is followed by only haematemesis or melaena or bleeding from other sites
- In female , early menstruation before the time of period or menorrhagia
- Acute abdomen– confuses with acute appendicitis, pancreatitis, acute exacerbation of chronic DU
- Renal- HUS, Renal failure

Atypical Presentations (contd.)

- CNS involvement – convulsion, CVD, subdural haematoma, polyneuropathy, mononeuropathy, transverse myelitis , quadriparesis , maculopathy, isolated cranial nerve palsy, encephalopathy or encephalitis, aseptic meningitis, hypokalaemic paralysis

Atypical Presentations (contd.)

- Acute viral hepatitis, even hepatic encephalopathy may occur
- DIC, Acute respiratory distress syndrome (ARDS)
- Dengue fever may present with any of these conditions and the actual diagnosis of DF may be missed .
- So, in endemic zone, DF should be considered as an etiology of the above conditions

Clue to the diagnosis in the above conditions

- **High degree of suspicion is the key point**
- Endemic zone
- Typical history of dengue fever
- Blood count is suggestive of DHF
- Positive anti-dengue antibody or NS 1 antigen

D. Concomitant surgery

- There may be acute appendicitis, cholecystitis, pancreatitis or other surgical conditions in association with dengue fever
- During epidemic period, until or unless strongly indicated, surgery should be avoided if there is DF
- If surgery is done in DHF, there may be dangerous catastrophe such as uncontrolled bleeding, even death may occur.

E. Investigations

When to do the blood count?

- Blood count like CBC and platelet should be done 5 to 6 days after the onset of fever, as there may not be any change before that time

- If done early, a normal count may found. This may misguide the physician regarding diagnosis, if he is not aware

Investigations (contd.)

What to advise for?

- Initially, full blood count including platelet and PCV should be done.
- Only platelet count and PCV are not sufficient
- Leucopenia, high lymphocyte and low polymorph may be present (which is a clue for the diagnosis).

Investigations (contd.)

How often Platelet count should be done?

- It is unnecessary to do platelet count very frequently-hourly or even twice daily
- Once daily platelet count is enough, even in severe DHF
- It is unnecessary to do platelet count from different laboratories at the same time. This will create confusion

Investigations (contd.)

Dengue Antibody

- Anti-dengue antibody develops usually after 4 to 6 days. So if done early, negative result will create confusion
- It should not be done before 5 to 6 days
- Detecting anti-dengue antibody may help in the diagnosis, but has no therapeutic benefit

Other investigations

Many investigations are done routinely but most of them are not essential, may be done in selected cases

- **Blood Sugar–** Should be done in every case. Blood sugar may be high temporarily in DHF
- **LFTs**– Commonly DF is associated with hepatitis leading to abnormal LFT (elevated SGPT, SGOT, Alkaline Phosphatase).
- Routine LFT is unnecessary and of no therapeutic benefit in most of the cases

Other investigations

- **USG of whole abdomen**

- It should not be a routine investigation.
- Even if ascites is present, no need for aspiration , unless indicated. It resolves spontaneously

Investigations (contd.)

CXR

- Right sided pleural effusion is common
- If respiratory distress is present or suspected clinically, CXR may be done.
- Even if pleural effusion is present, aspiration is unnecessary in most of the cases. It resolves spontaneously

Investigations (contd.)

- **BT & CT**– Not necessary
- **P T & APTT**– May only be done, if DIC is suspected, otherwise not needed
- **Blood culture & urine culture–** Not a routine
- **CT scan or MRI of brain -** Not needed **e**ven if severe headache
- **Lumber puncture**

F. Treatment

About Blood Transfusion

- With the diagnosis of DHF, patients, relatives, even the physicians become worried about blood transfusion
- In the absence of bleeding and with normal Hb%, blood transfusion should be avoided.
- Only low platelet count is not an indication for blood transfusion.

F. Treatment (contd.)

About Platelet Transfusion

- After 5 to 6 days of illness, platelet falls and then after 2 to 3 days, it rises spontaneously.
- Sometimes, physicians and patients with their attendants become panicked with low platelet count and insist for platelet transfusion.
- However, platelet transfusion is not needed in most of the cases.

F. Treatment (contd.)

- One unit of platelet requires 4 units of whole blood and needs cell separator
- Before platelet transfusion , because of emergency, sometimes screening for HBV, HCV, HIV etc. are not done, which are time consuming and cost effective
- So, platelet transfusion may bring with it the hazards of HBV, HCV, HIV etc

Platelet Transfusion (contd.)

- Half-life of platelet is only 6 hours. It does not give long lasting benefit
- Repeated transfusion of platelet may lead to the development of anti-platelet antibody.
- So platelet transfusion is not required

Use of other infusion

- Can be given only in selected cases e.g. DSS, DIC etc.
  - PRP
  - Plasma
  - Haemacel
  - Dextran

Use of Antibiotic

- DHF is a viral disease, there is no role of antibiotic.
- There is one misconception that antibiotic should be avoided in dengue fever and may be harmful.
- If any secondary infection is present , antibiotic should be prescribed. Antibiotic will not do any harm in DF
- IM injection should be avoided

Regarding Steroid in DF

- Controversial
- General consensus is not to use
- However, steroid may be given if -
  - ✓ Severe thrombocytopenia
  - ✓ Severe prostration, Severe headache, Severe body ache
  - ✓ Dengue shock syndrome
  - ✓ Multi organ involvement
  - ✓ Neurological involvement such as Maculopathy, Encephalopathy, Transverse Myelitis

Conclusion

- Reassurance is vital
- Patients, attendants as well as physicians should not be panicked, if DHF is diagnosed
- Should not be very dogmatic in managing dengue patients

Conclusion (contd.)

- DF is a self limiting disease, even if nothing is done.
- However, patient must not be reluctant, should consult with doctor, to avoid serious complications or catastrophe.
- What should be done is very important. On the contrary, what should not be done is also important.
- What should be or may be done, must not be over done.

Conclusion (contd.)

- **The idea that blood transfusion or platelet transfusion is essential – is futile.**

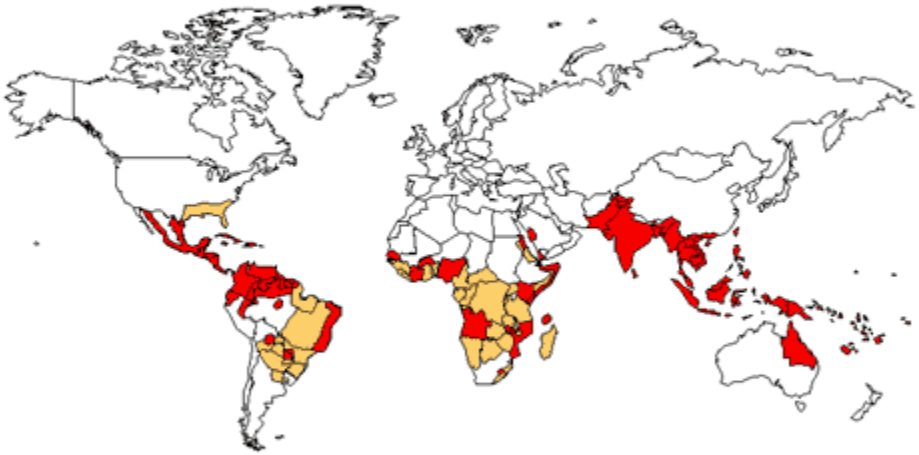
Conclusion (contd.)

- Mosquitoes are all around, so is the suitable environment for their breeding and spread.
- Eradication of dengue fever might not be possible completely, but it can be controlled up to certain extent .
- So, dengue fever was present, is present and will be present .
- It will be continued to be a major threat and challenges in future.
- We should not be afraid of it, rather we have to learn to live with dengue fever.

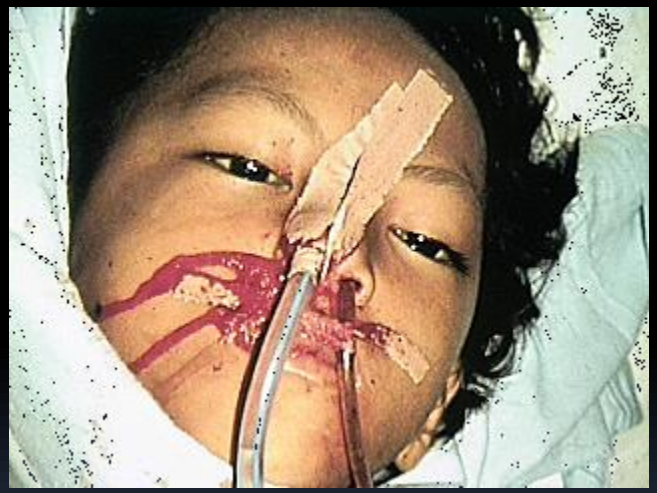
Aedes aegypti mosquito

BREEDING PLACES OF *Aedes aegypti*

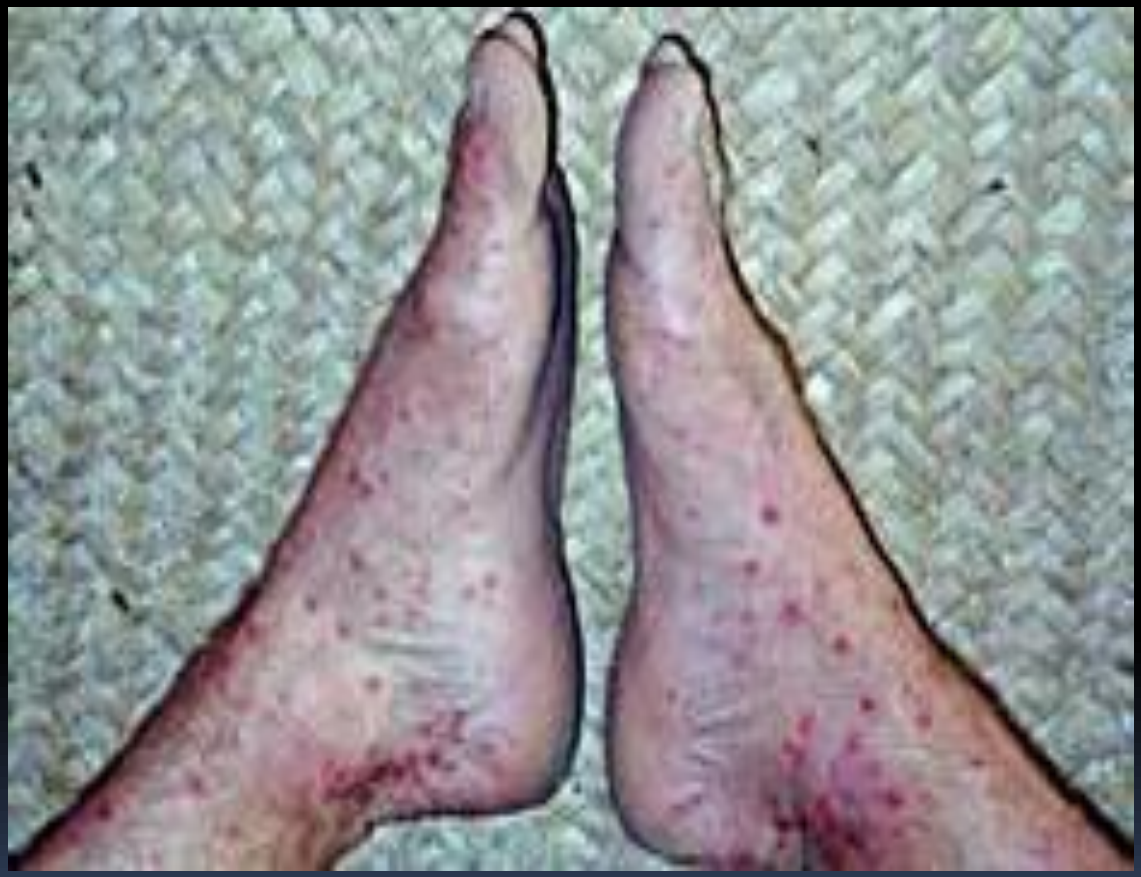
World Distribution of Dengue - 2000



Severe epistaxis



Petechial hemorrhage



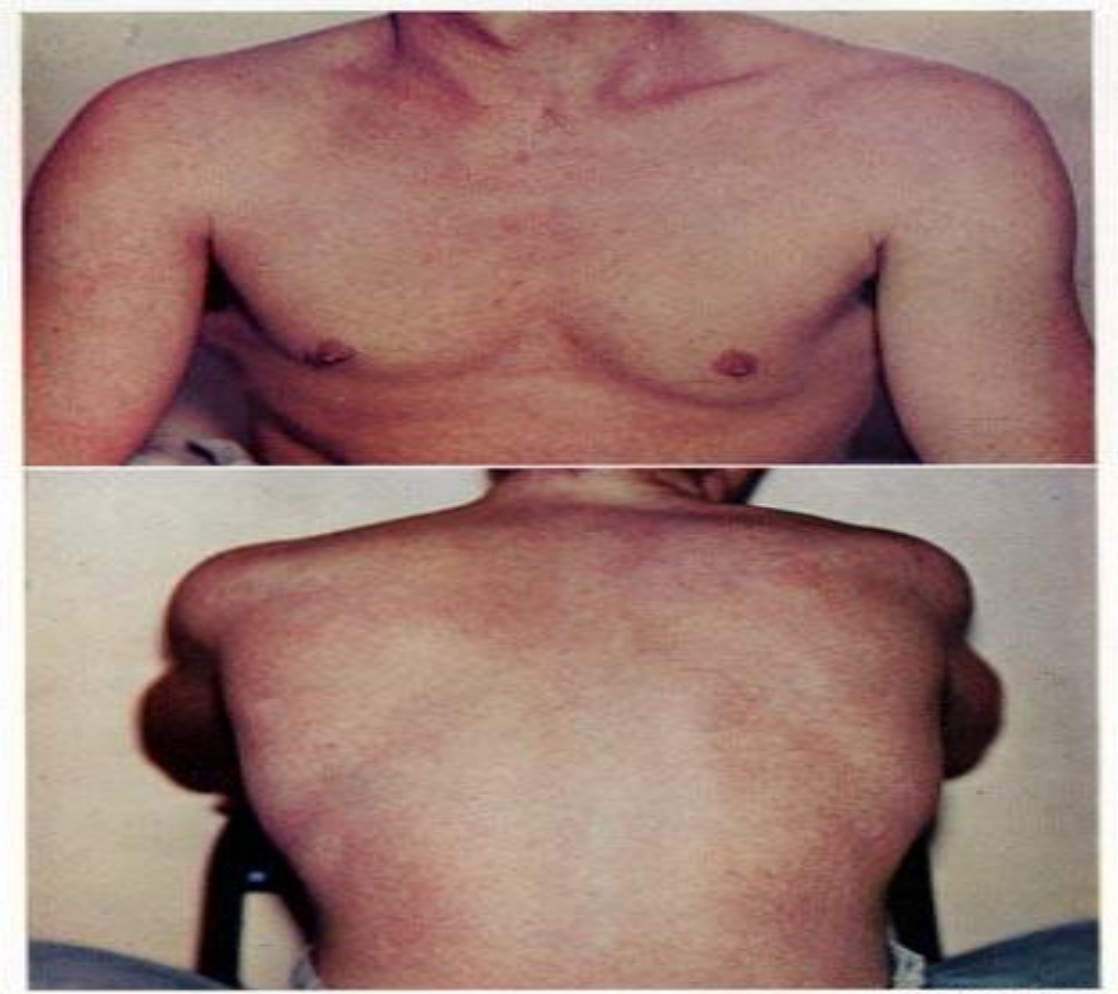


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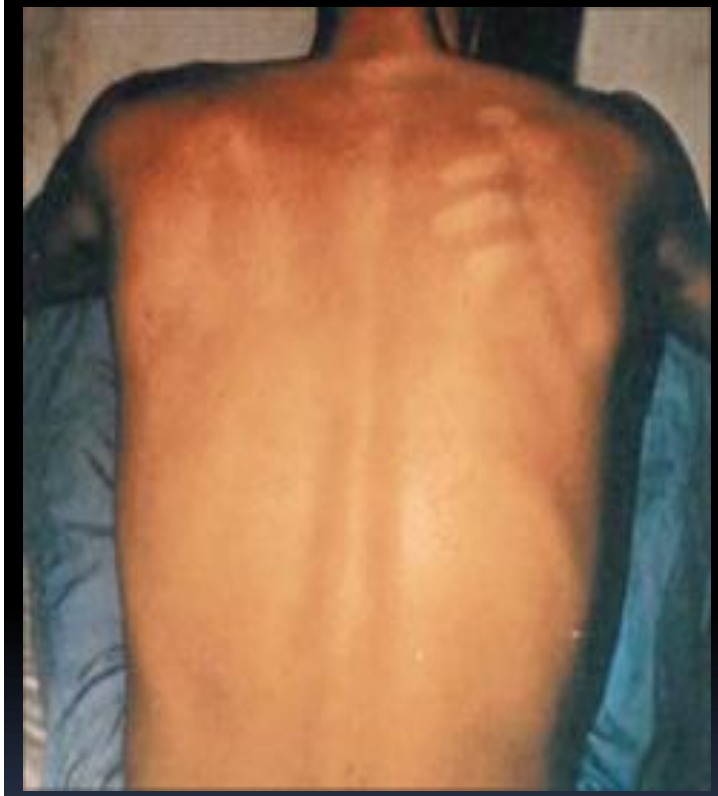
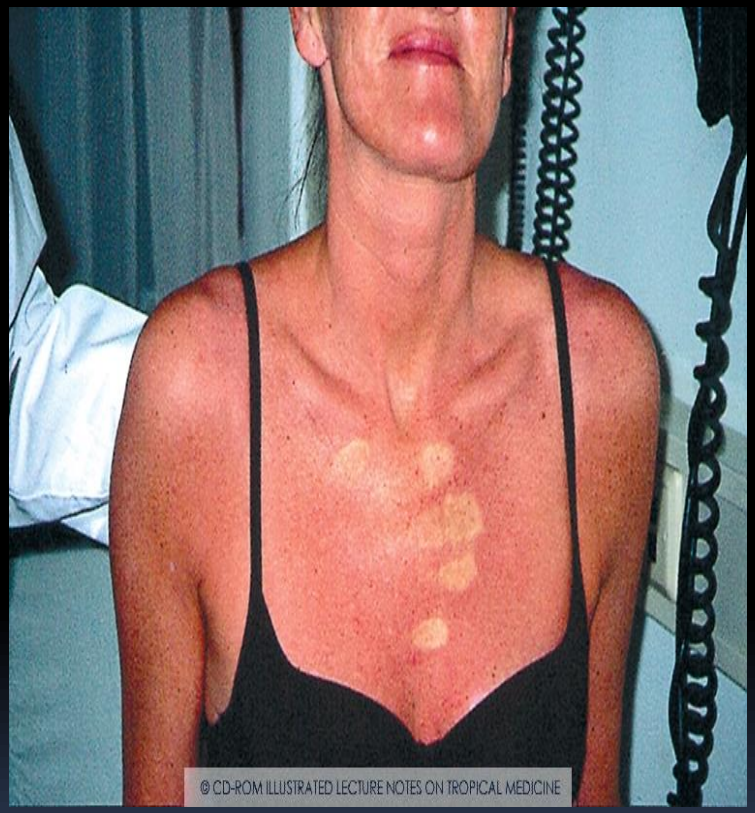
Figure 7.—Rash of dengue fever on chest and back.

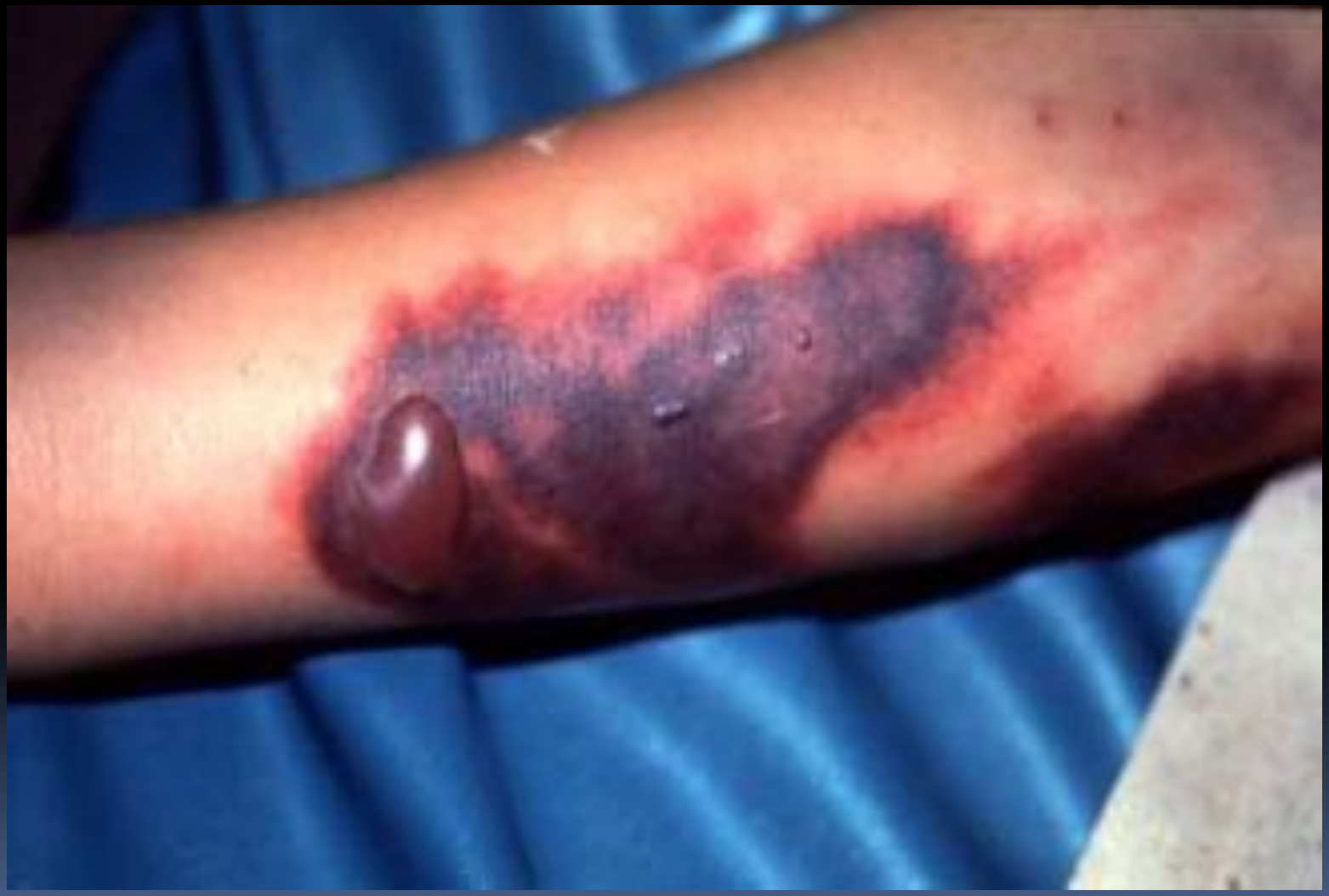
Subconjunctival haemorrhage

Typical rash blanching on pressure





Echymosis



Thank you for your attention

Your views, comments or Questions