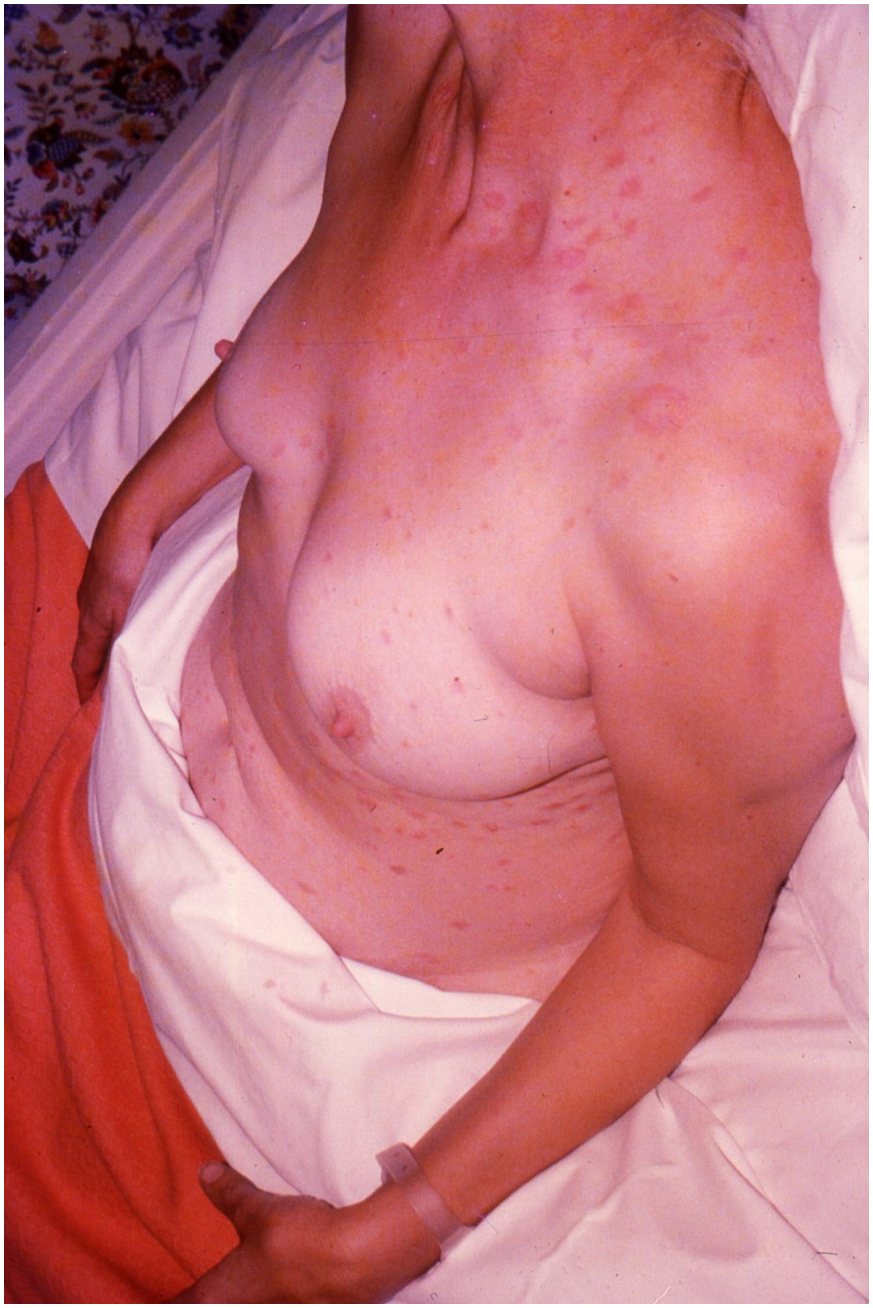
What is this rash?
What is the significance of the patch on her shoulder?



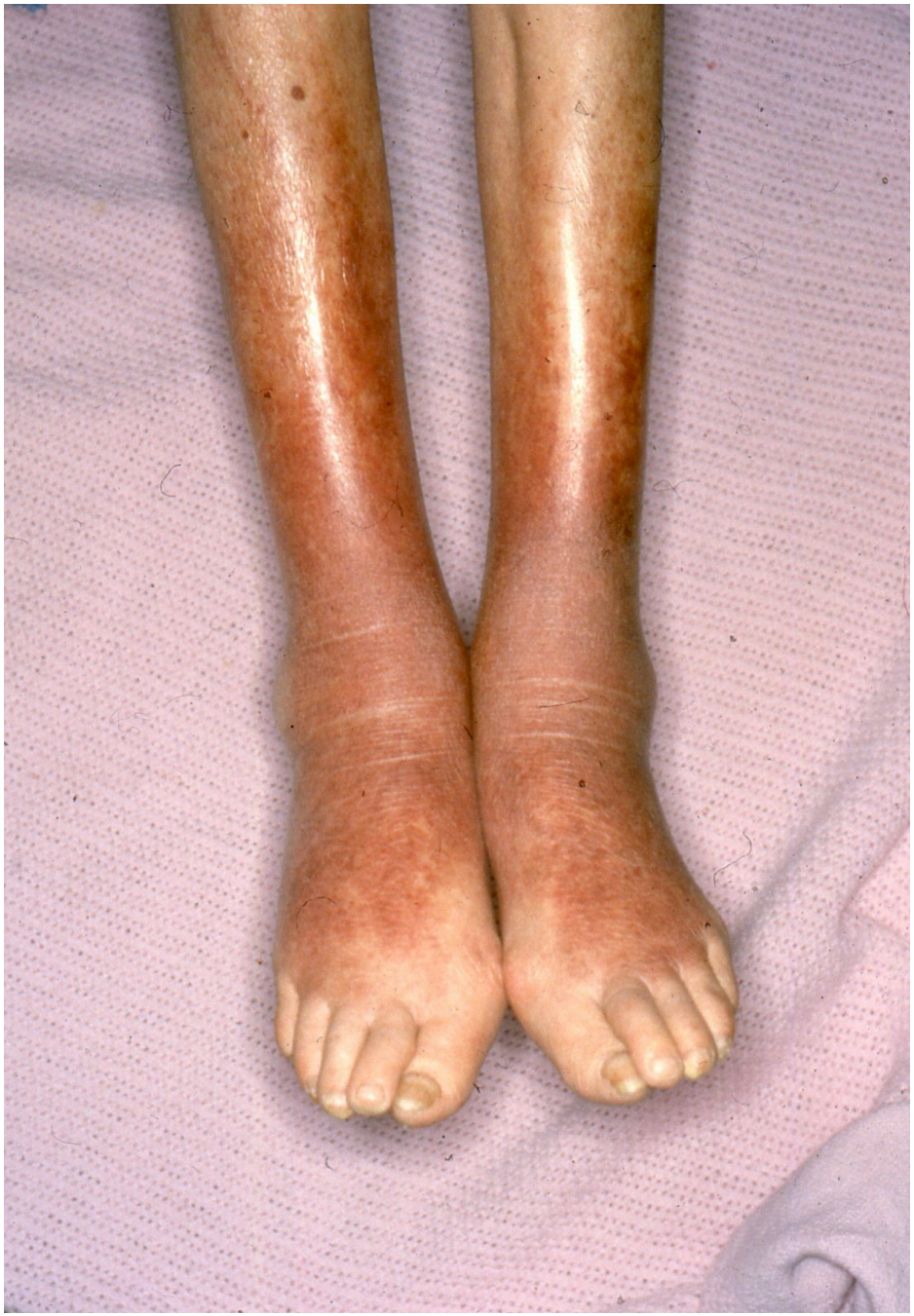
This is Pityriasis rosea, a mild, self-limiting, often mildly itchy, idiopathic condition. Classically there is a herald patch (like the one on her shoulder) that precedes the rash by 1-20 days. The rash often follows Langer's (skin cleavage) lines as in this lady.

The differential diagnosis includes ringworm, psoriasis, and discoid eczema.

This lady had been chronically malnourished from self-neglect.

She mildly demented, had had chronic diarrhoea, and had dermatitis as shown.

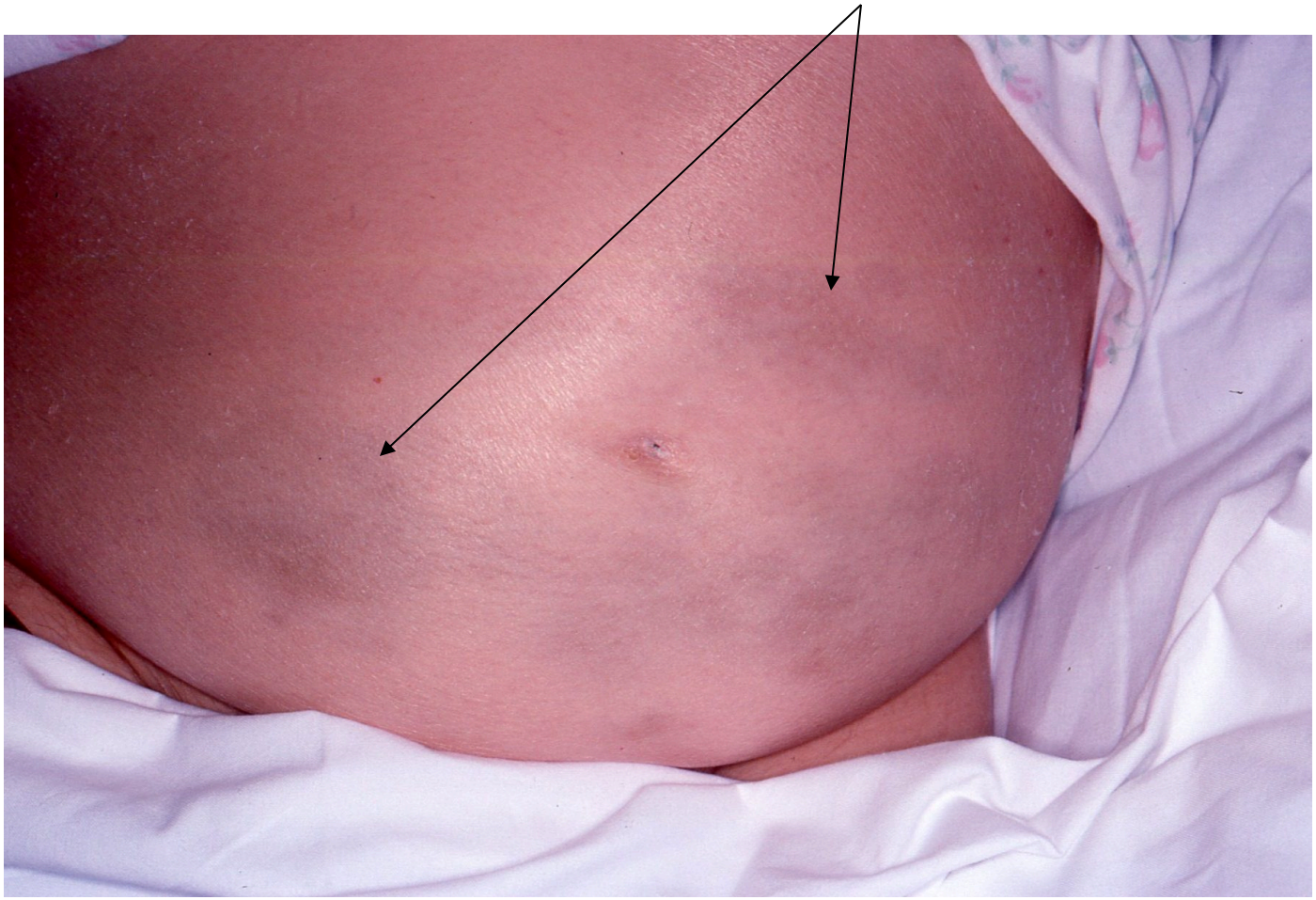
What is the diagnosis? (clue she had the “three Ds” of a certain disorder)



This is pellagra, caused by a deficiency of niacin (Vitamin B3). In fact there are “Four Ds” – the fourth being death if untreated.

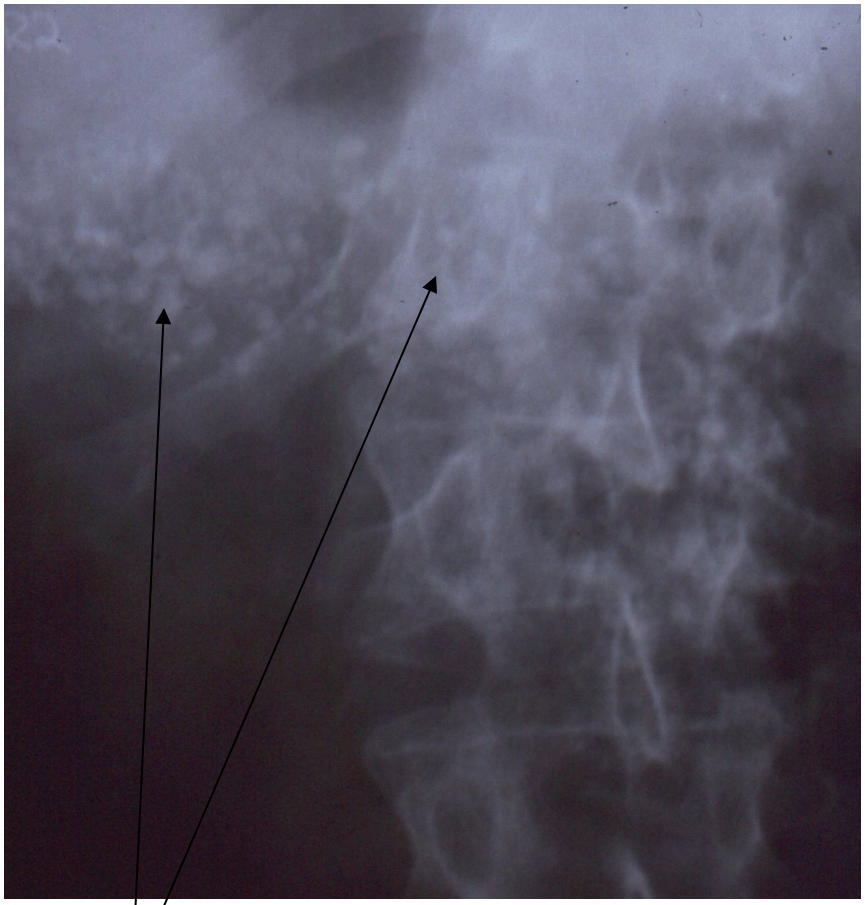
Other possible symptoms include:
photosensitivity, oedema, beefy glossitis, and cardiomyopathy.

This man had a chronic high alcohol intake and presented with acute back pain. Whose name is attached to the periumbilical bruising?



This is Cullen's sign and can occur in pancreatitis – pancreatic enzymes leak around the abdominal wall and digest fatty tissue (if bruising is on the back and loin it is called Grey Turners sign.

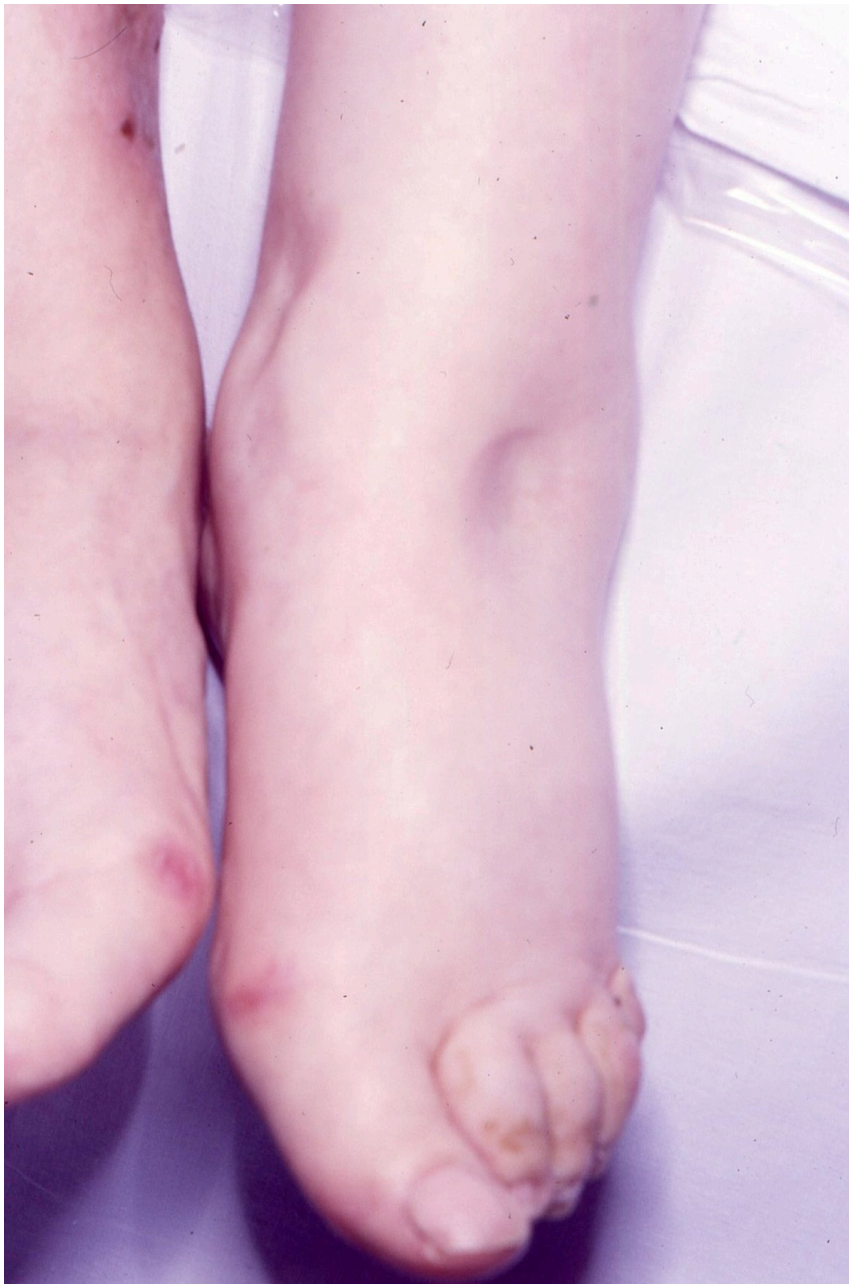
What might a plain X-ray of the abdomen show?



Pancreatic calcification or (not evident here) evidence of an abscess in the lesser sac “pancreatic pseudocyst”

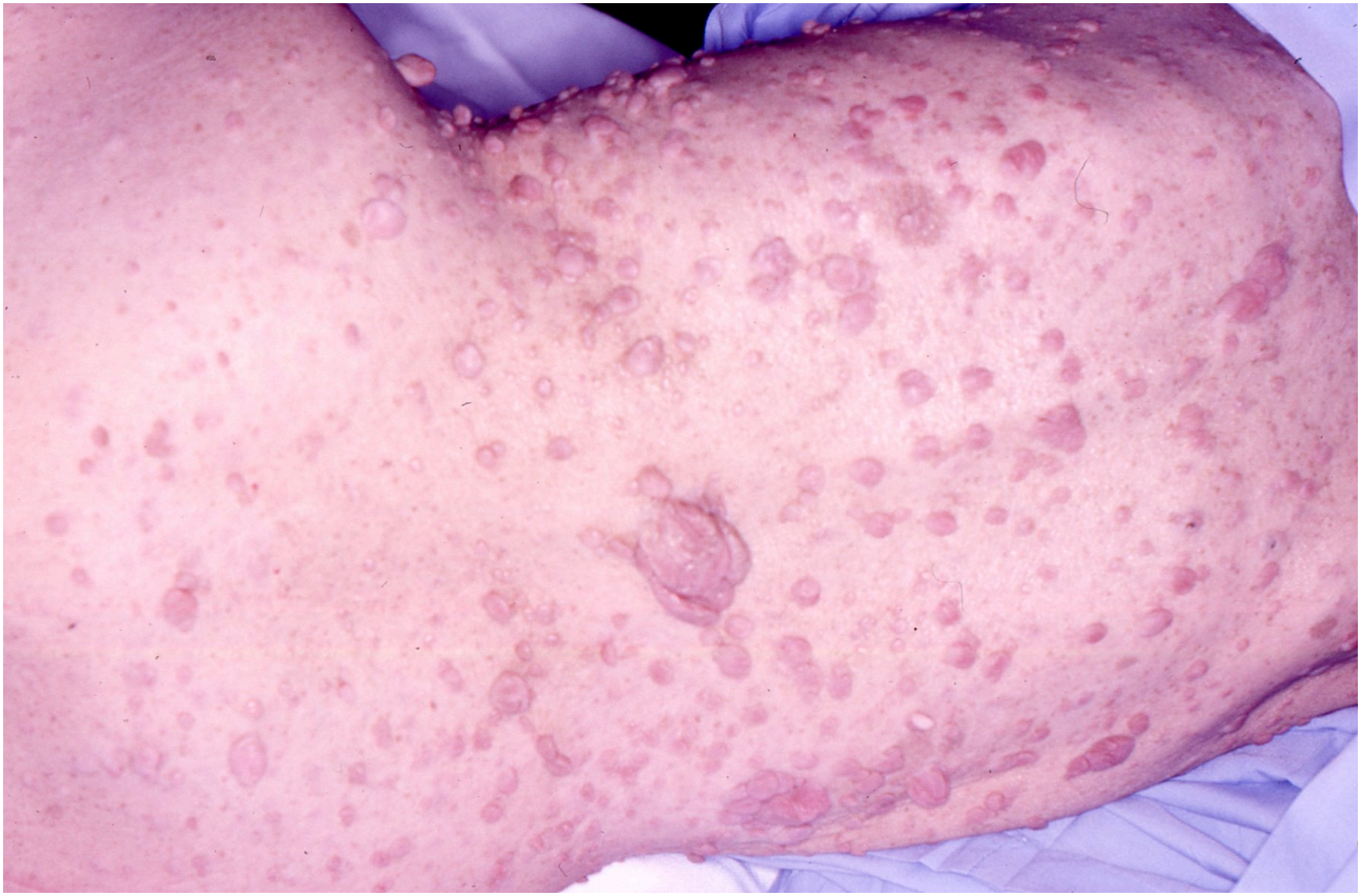
What is this?

And what are the common causes?



This is pitting oedema. It may be caused by (right) heart failure, hypoproteinaemia of various causes, venous obstruction in the pelvis, deep venous thrombosis and lymphatic drainage problems including filariasis and post lymphangitis.

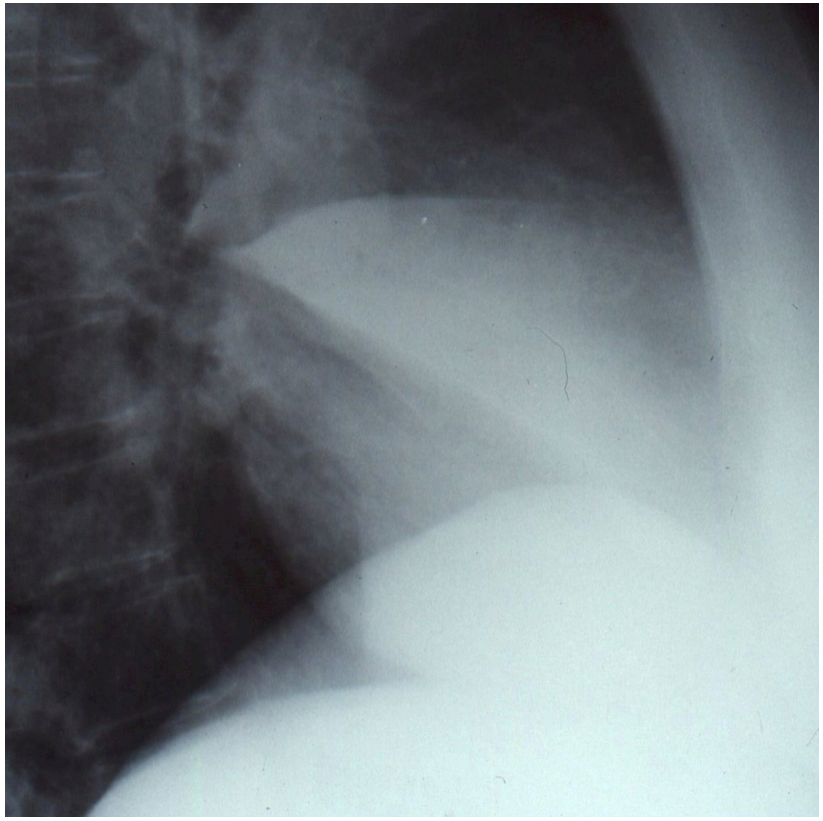
Probably the most common cause of mild oedema is postural in combination with varicose veins “elderly patients who sit most of the day.”



What is this and how is it inherited?

This is neurofibromatosis which is usually inherited in autosomal dominant pattern.

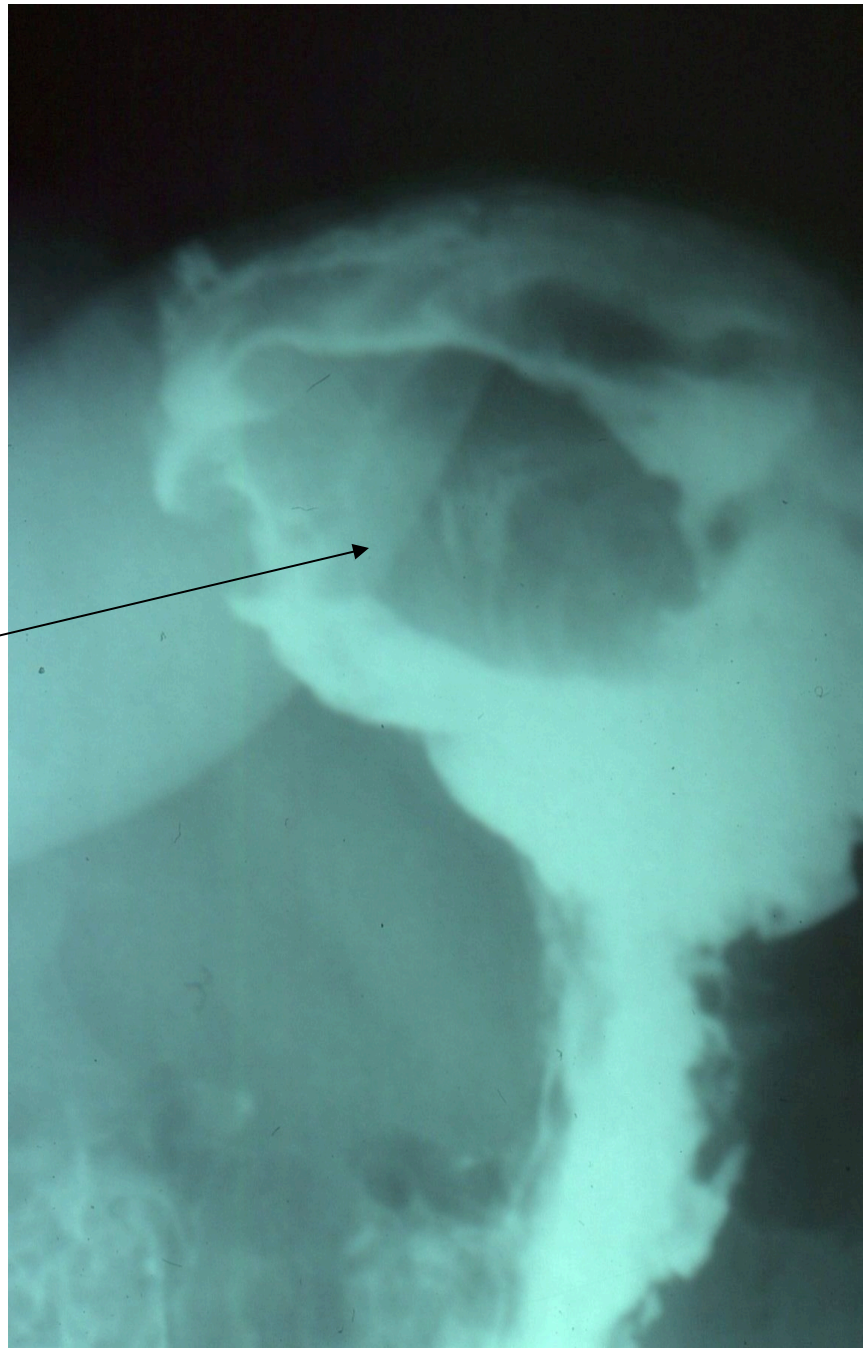
What is the anatomical diagnosis, and what is the likely aetiological diagnosis?



The anatomical diagnosis is right middle lobe consolidation. It is of “ground glass” appearance which suggests, but is not diagnostic of, *Strep. pneumoniae* infection (this organism produces various “tissue lytic” substances which enable the infection to spread until it reaches anatomical barriers such as the interlobar fissures. In contrast Staphylococcal infection often causes rounded abscesses because they secrete substances such as coagulase which cause the infection to be localised independently of tissue barriers.

This patient presented with haematemesis but had no previous indigestion.

What is the diagnosis?

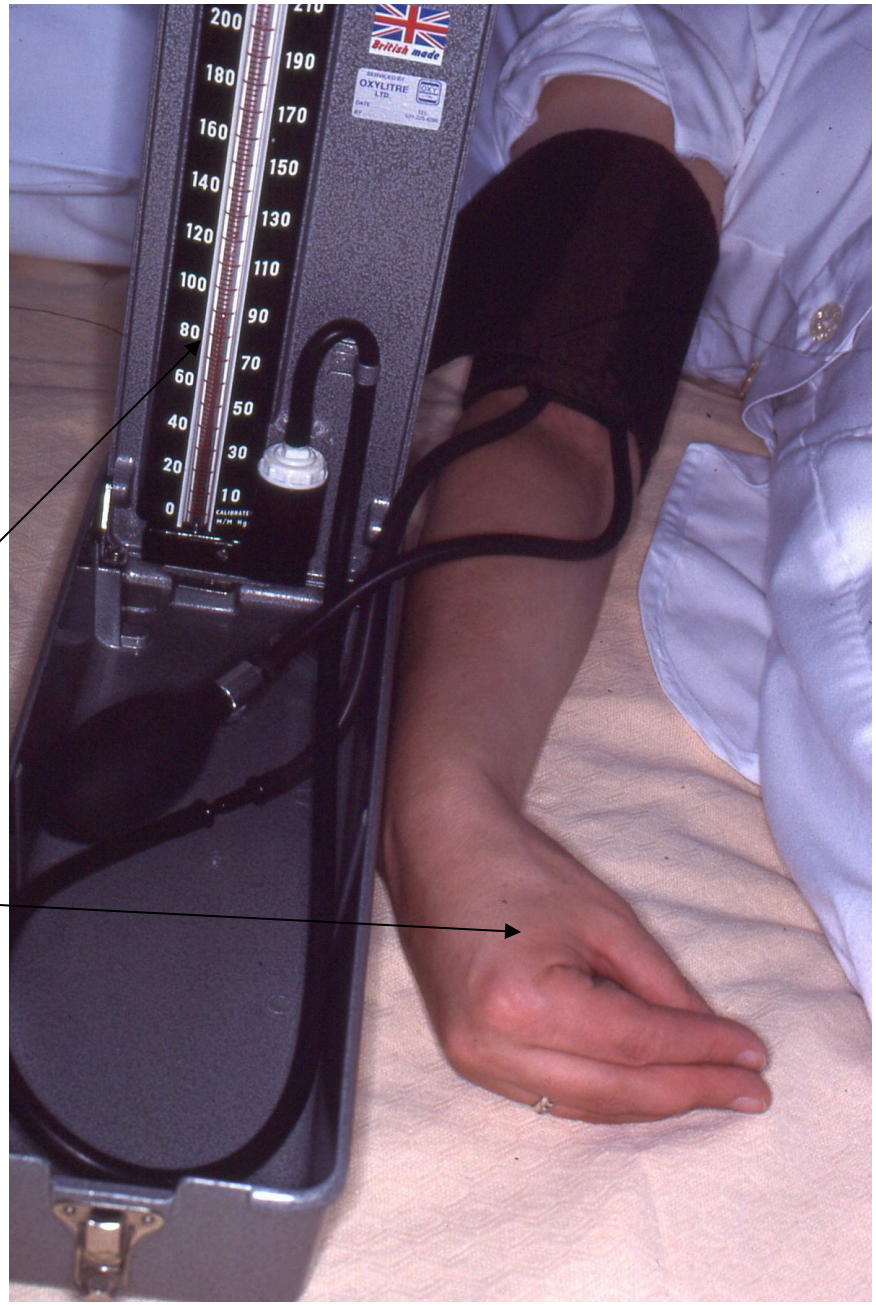


This is a gastric leiomyoma, a histologically benign tumour that can attain a considerable size as in this patient

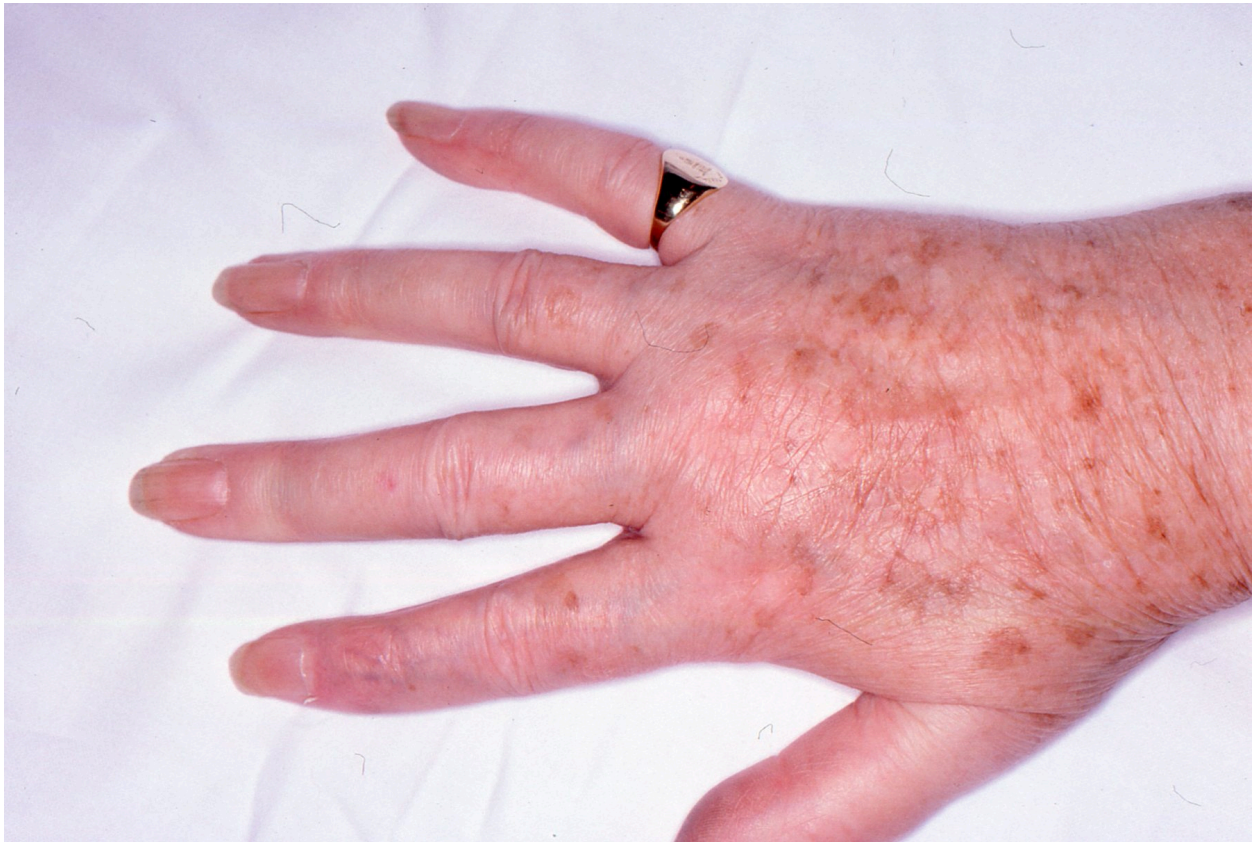
The blood pressure cuff was inflated to a pressure between the systolic and diastolic blood pressure.

What is the name attached to the posture of the hand?

And (a clue) what is the name attached when she developed a facial contraction after the region of her parotid was gently percussed?



This is Trousseau’s sign. Facial spasm after percussion of the parotid region is Chvostek’s sign. Both may be found in hypocalcaemia.



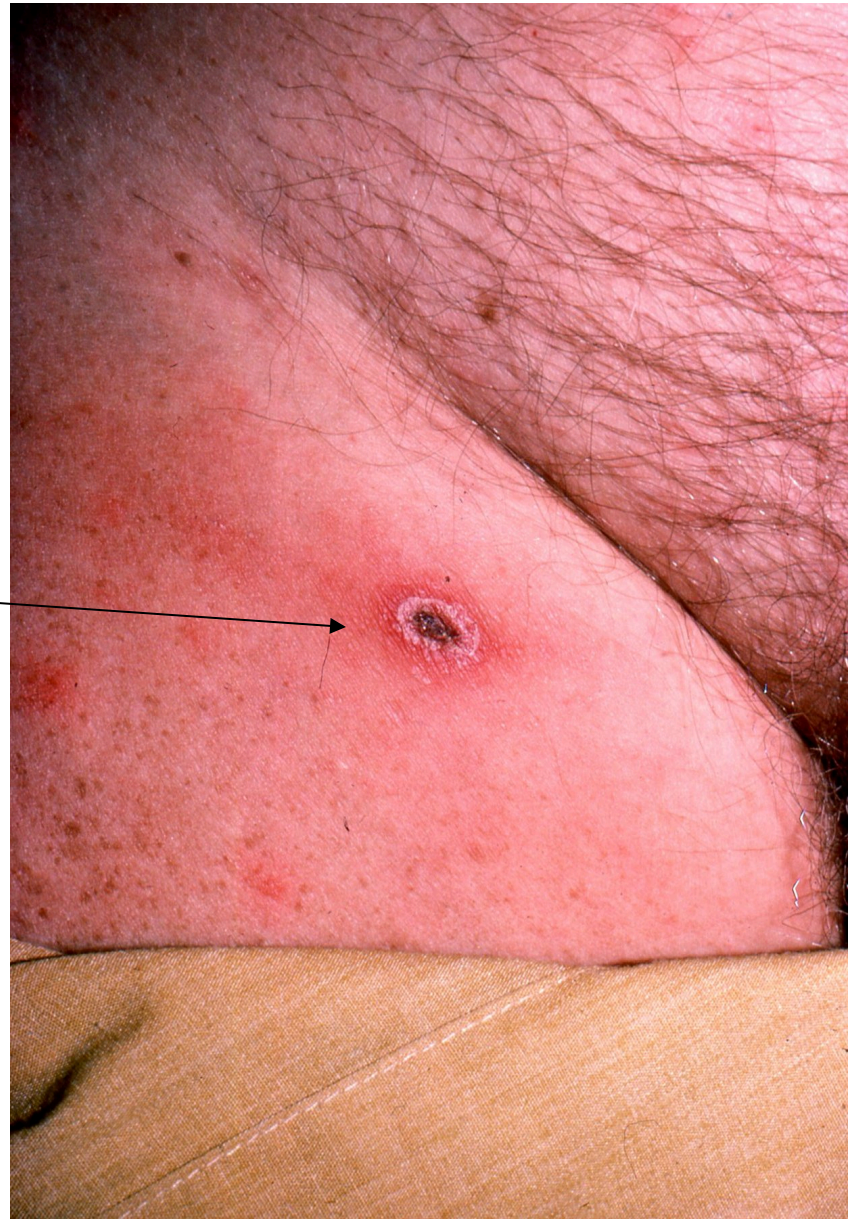
This lady had tight skin on her fingers. She also had severe oesophagitis. Why?

This is scleroderma. Patients can also get gastrointestinal fibrosis and lack of propulsive movements through affected areas, including the lower end of the oesophagus, hence the oesophagitis.

This man had returned from a visit to a South African game park and had a febrile illness with a macular rash.

He had not noticed this lesion in his inguinal region. What is it and what is the diagnosis?

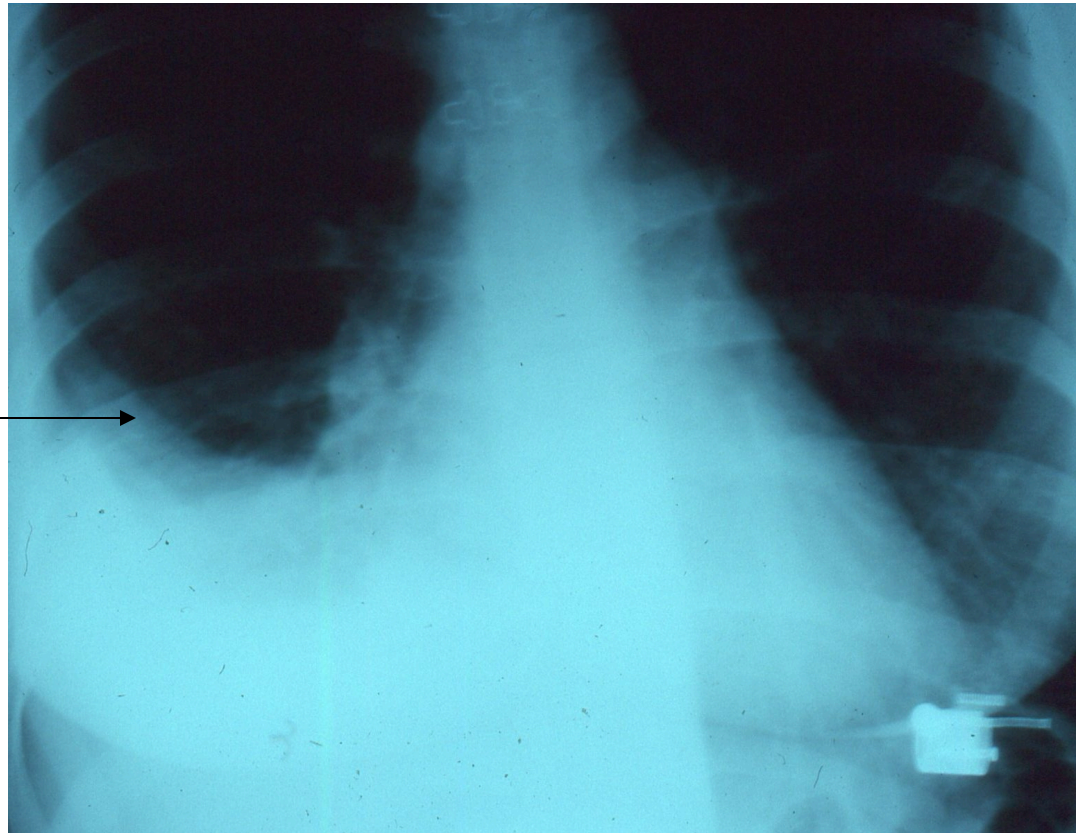
What other disease ought to be excluded?



This is an eschar – the site of introduction of a pathogenic organism. This is typical for South African Tick Typhus.

Any febrile patient from a malarial area ought to have malaria excluded. Malaria can cause almost anything. However malaria does not cause rashes unless clotting is greatly disturbed (malaria also does not usually cause a sore throat or lymphadenopathy).

What intrathoracic **anatomical** pathology causes lipping up of pleural fluid into the axilla on X-ray?



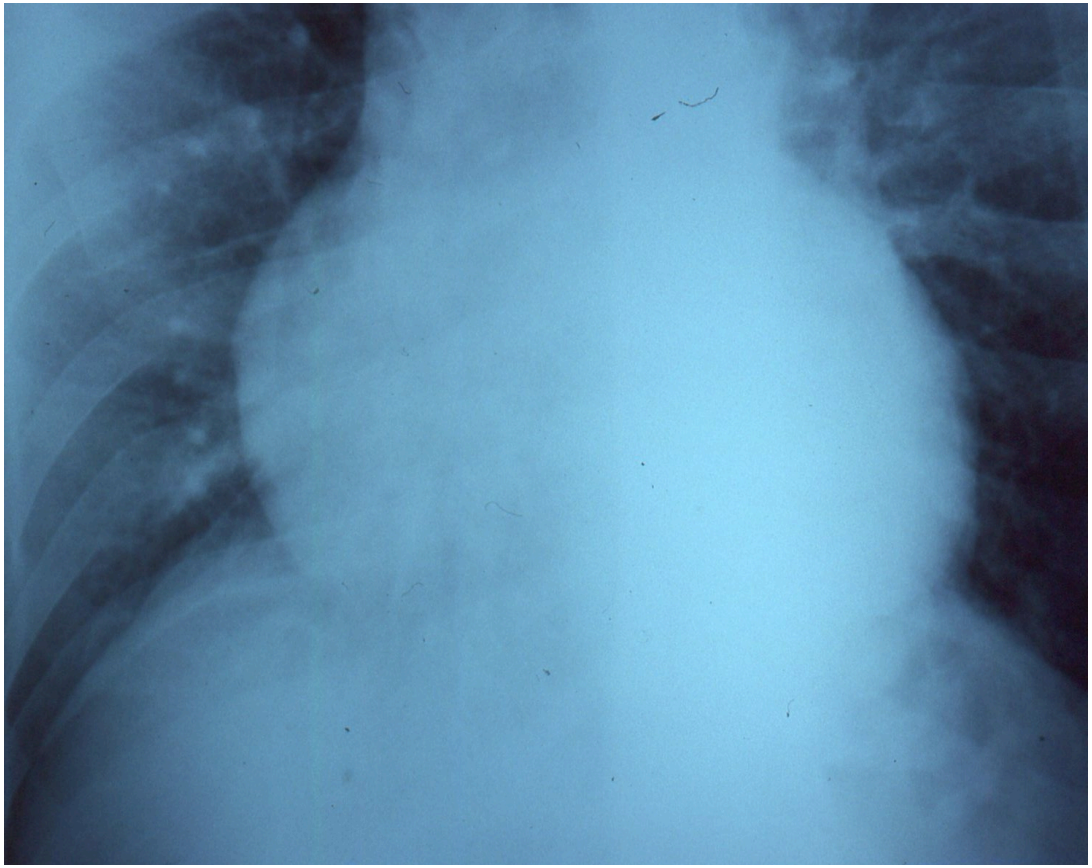
The aetiology was an underlying pneumonia. What predisposing activity did she have?

On X-ray pleural liquid is seen to lip up into the axilla. This however is only a partial truth. Pleural liquid lips upwards **all round** the lung. It appears to lip up into the axilla on X-ray because, as the X-rays become more tangential towards the chest wall, they have to pass through progress through a greater depth of liquid, which absorbs more X-rays, which then do not reach the plate to darken it. It is this that produces the lipping appearance.

Why do I refer to pleural liquid and not to pleural effusion? Because the same X-ray appearances could be produced by any pleural liquid, including pus or blood. And the management of these is very different from pleural effusion!

The predisposing activity? Smoking. How do we know? Well, there is an abnormality at the left lower region of her chest. Clue: there are several places that women can hide things. She had hidden a cigarette lighter in her bra.

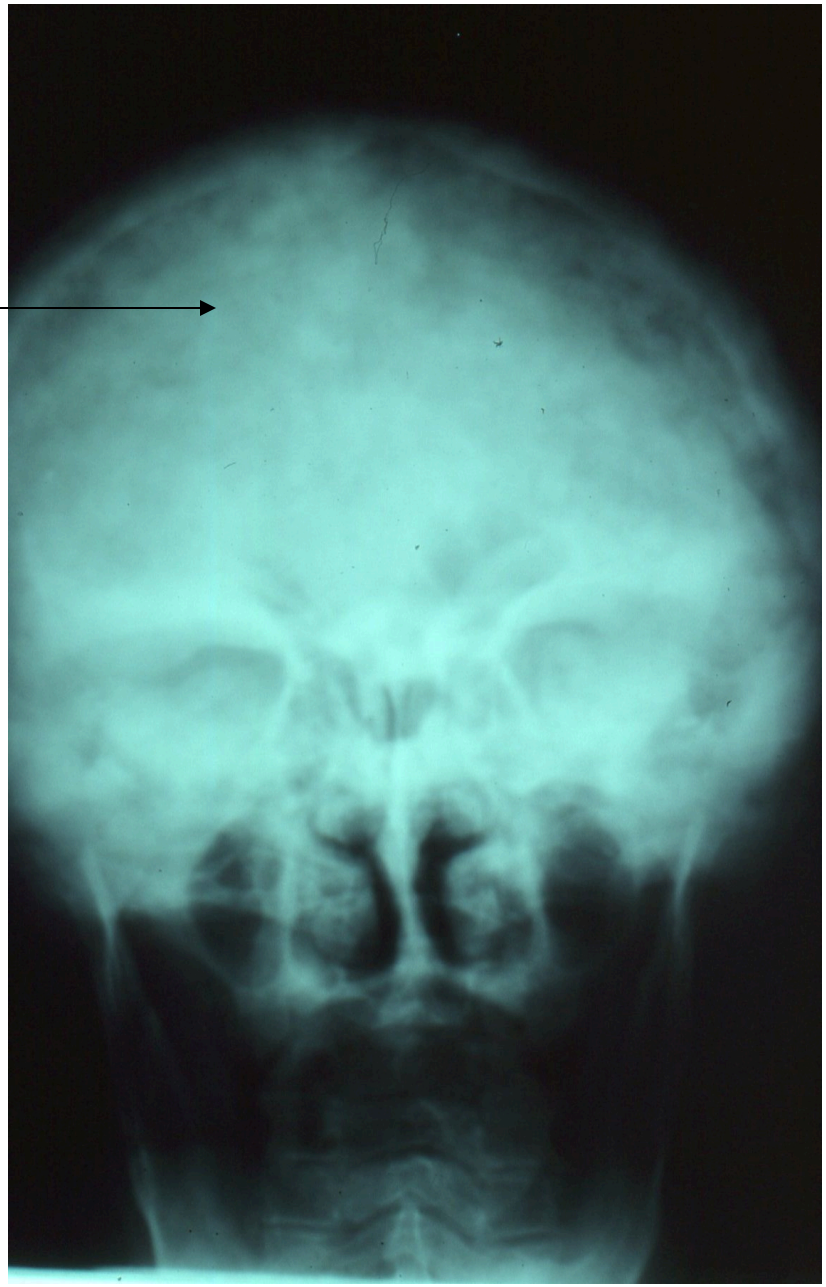
What is the cause of this heart appearance?



This is a globular heart and the most common cause would be a pericardial effusion, possibly with complicating cardiac tamponade. Be wary of “effusion.” This patient was febrile, unwell, and had cardiac tamponade. She had recently been to the Canary islands. Rather unexpectedly salmonella was grown from the purulent aspiration of her so called “effusion.“ She thus had a pericardial empyema.

Interesting general knowledge point. There are no canaries in the Canary Islands! The “Can” of canaries refers to dogs (Canis) hence Canary Islands refers to the fact that there were a lot of dogs there.

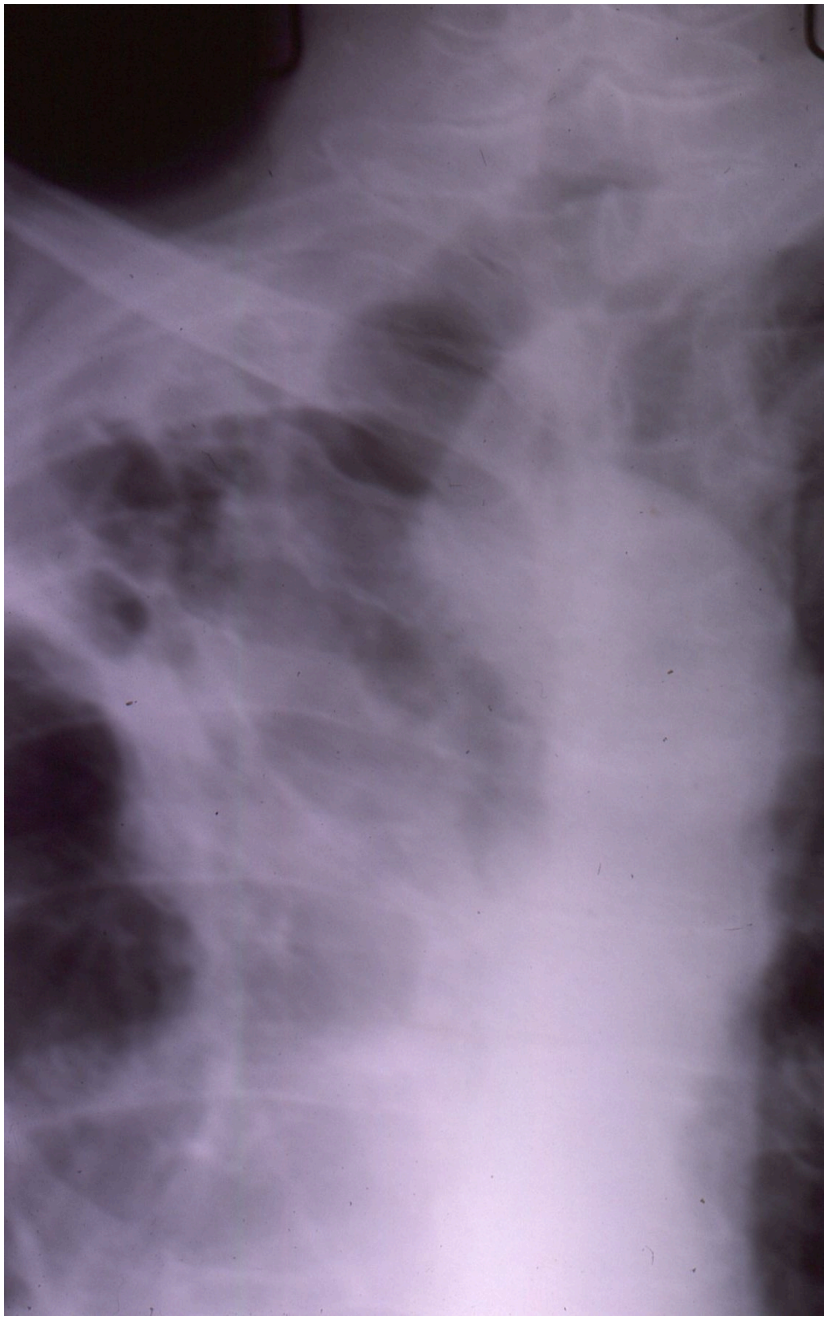
The fuzzy expanded dome of the cranium is typical of?



Paget’s disease

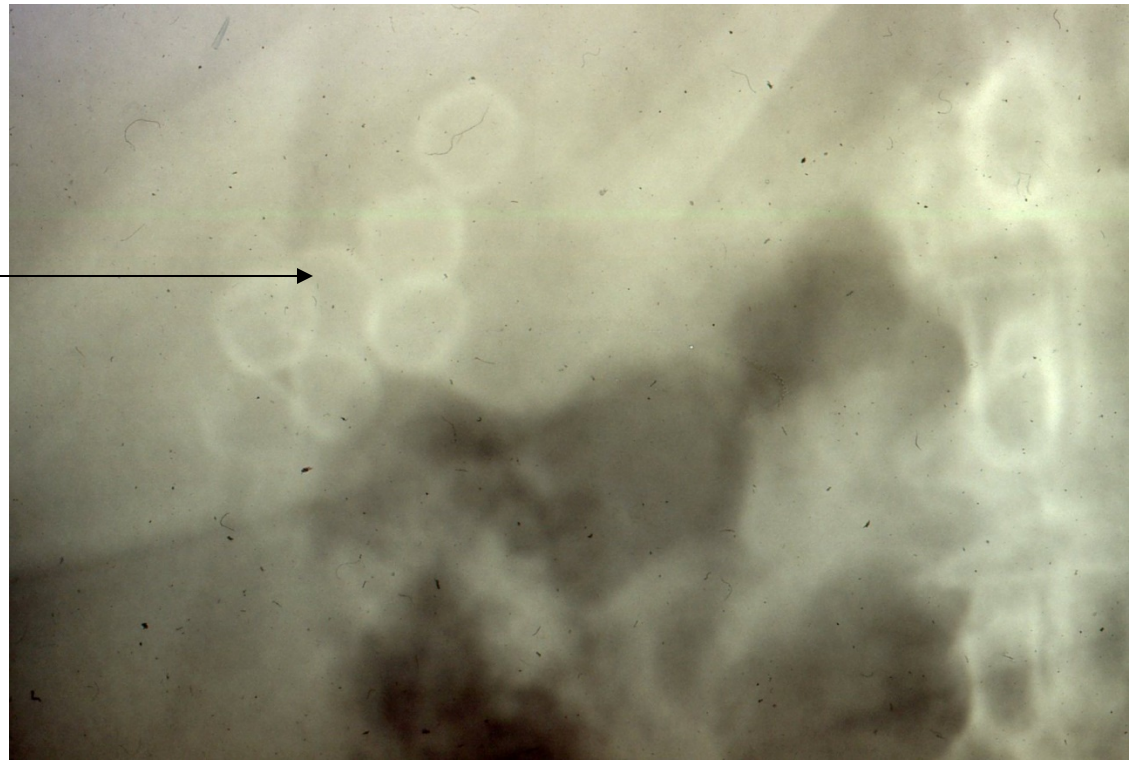
What is the most likely aetiology of these chest X-ray appearances?

Is this disease process likely to be active (on radiological if not necessarily clinical grounds)?



This is likely to be inactive tuberculosis. There is fibrosis (with the hilum being drawn upwards and the trachea being pulled to the right, and some small areas of cavitation). The situation in the upper zone is typical for tuberculosis. There is no obvious calcification which would be another major clue to a diagnosis of tuberculosis. There is no surrounding fluffy shadowing to make one suspect active tuberculosis.

What are these?



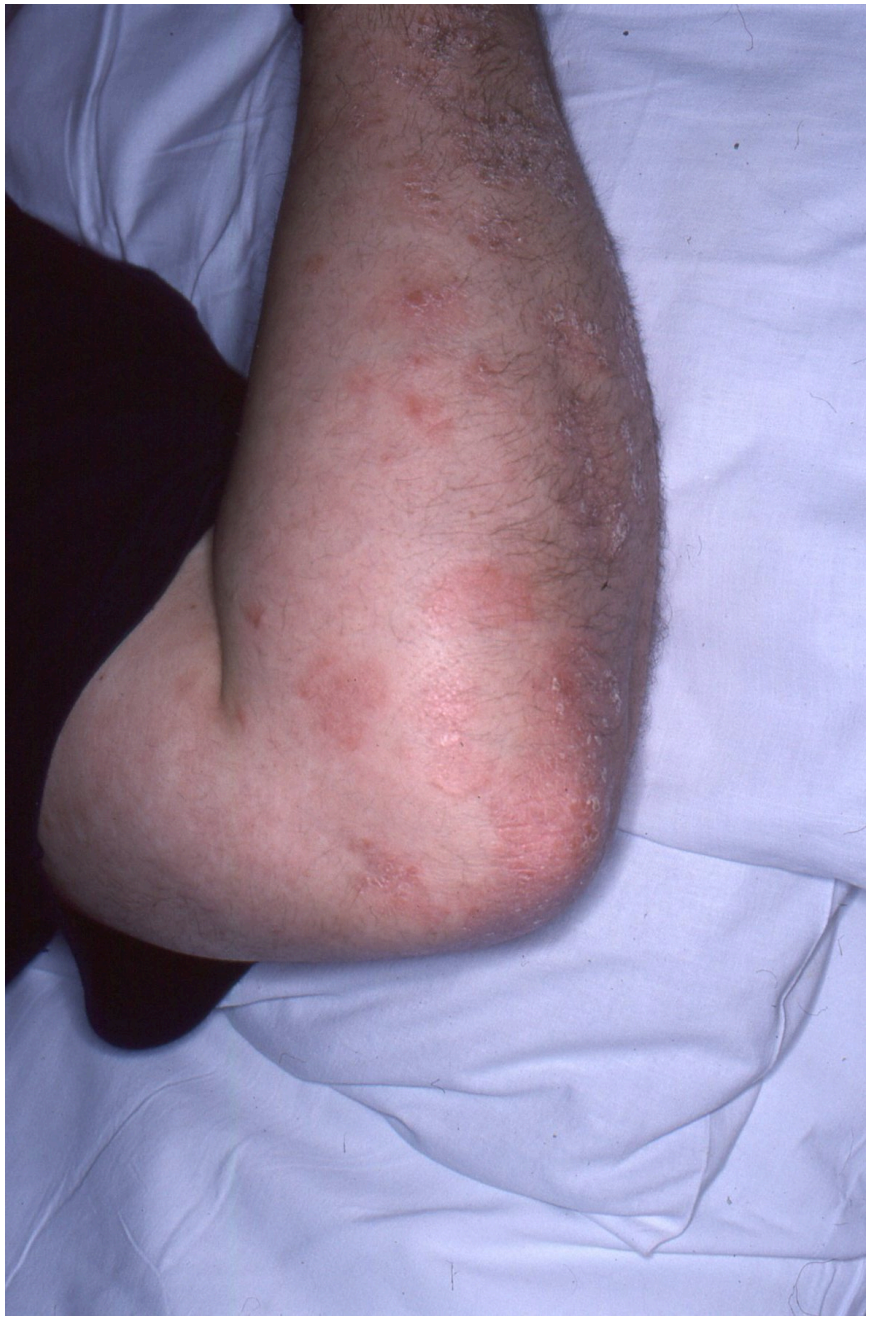
These are gallstones. They are large and have calcium in their walls: this would make them unsuitable for attempts at oral therapy to dissolve them.

Provided there was no cholecystitis, keyhole surgery should be recommended.

Incidentally jaundice is not a feature of uncomplicated cholecystitis – if a patient has cholecystitis and jaundice then they usually have a stone in the common bile duct.

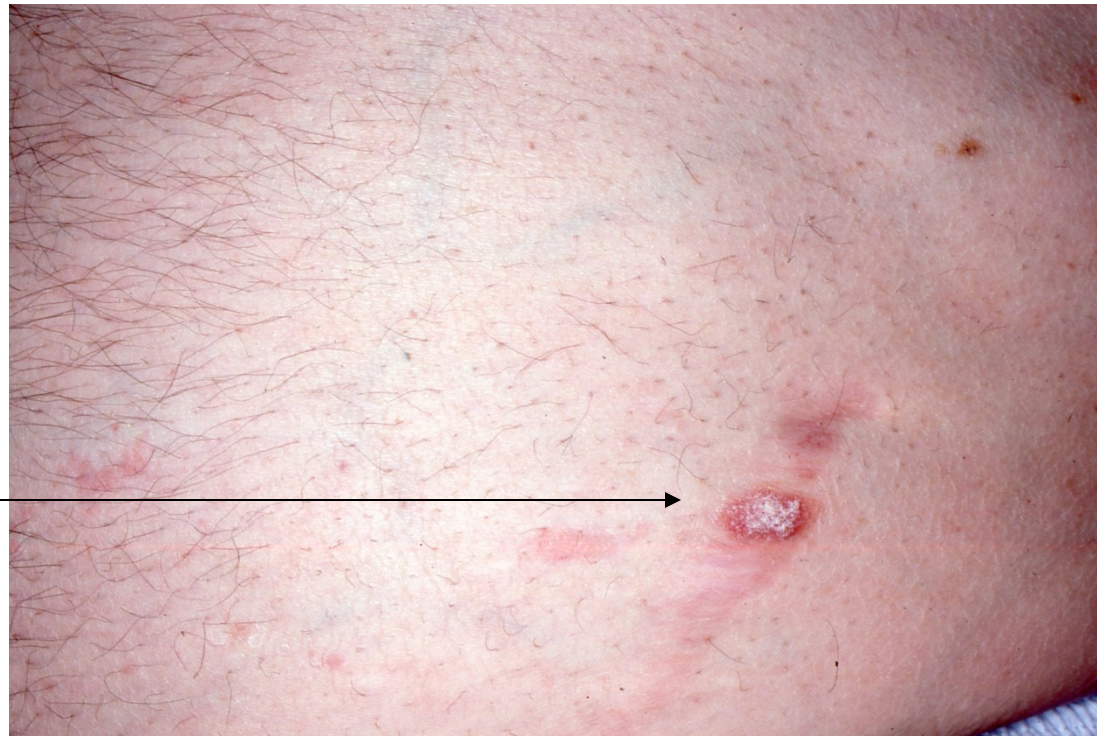
What is this skin condition?

And where else may it be found?



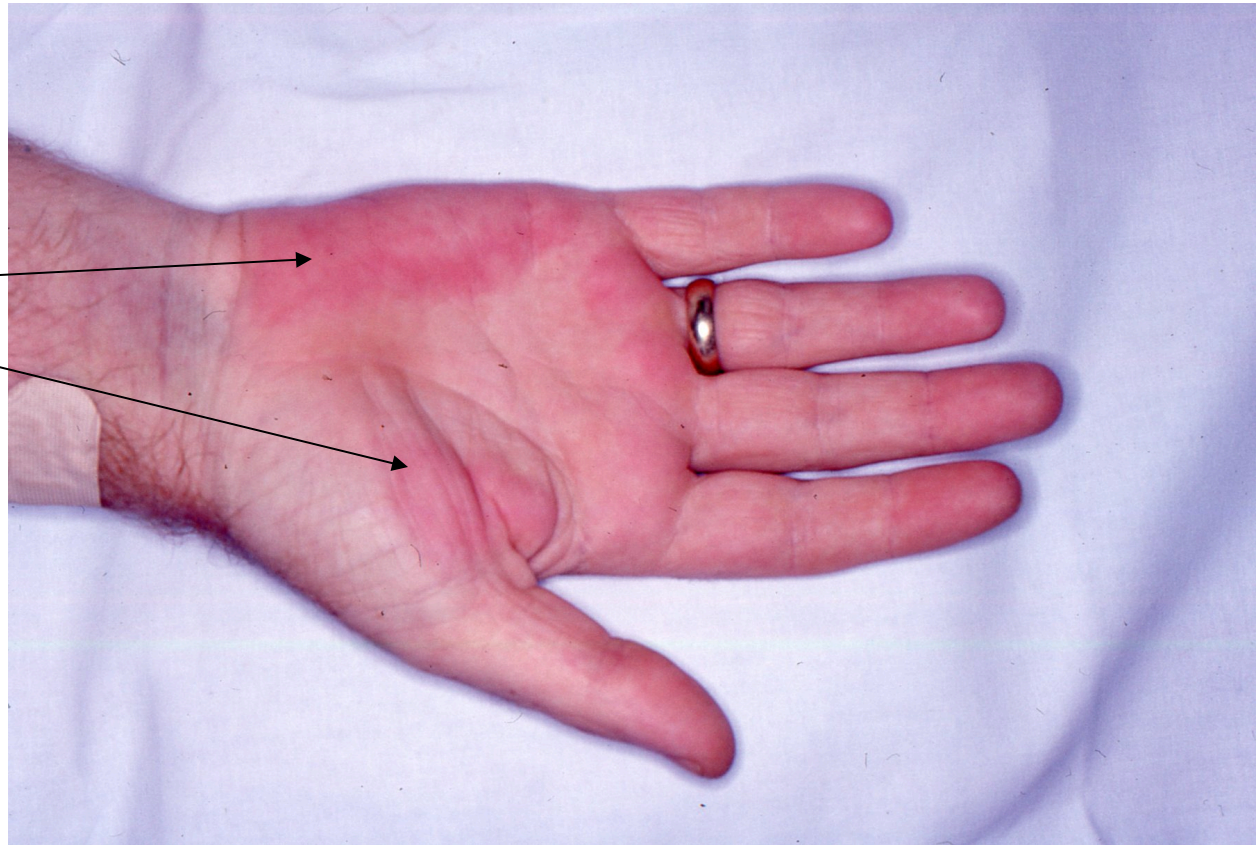
This is psoriasis which presents with red scaly patches “plaques” of a silvery-white appearance.

Plaques may occur on the extensor surface of the elbows and knees (unlike eczema which preferentially involves the flexures), but any body area may be involved, including the palms and soles, and in and surrounding head hair. Psoriasis may be found in surgical scars, and in areas of skin trauma (Koebner’s sign). Arthritis may be associated in which case there is usually nail pitting.



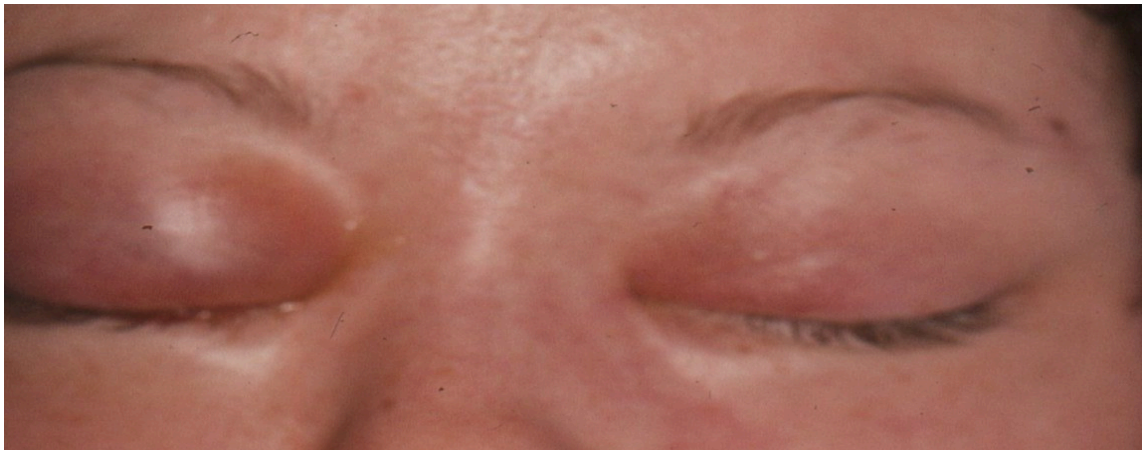
What is this?

And what are its common associations?

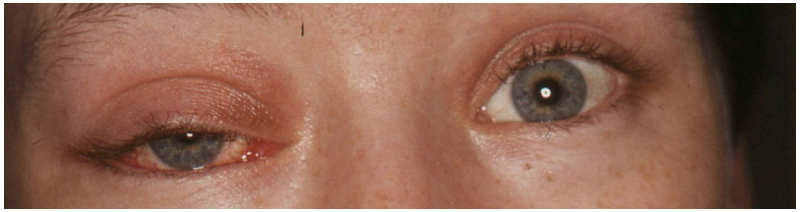


This is palmar erythema. Unlike normal “vasodilated hands” the erythema is absent in the middle of the palm, characteristically has a slightly stippled appearance, and is not diffusely erythematous.

It is found in liver disease (usually chronic liver disease often when there is portal hypertension, although it may occur in acute hepaptitis), hyperthyroidism, pregnancy and (curiously enough) in about 30 percent of patients with rheumatoid arthritis. Sometimes there is no obvious cause.



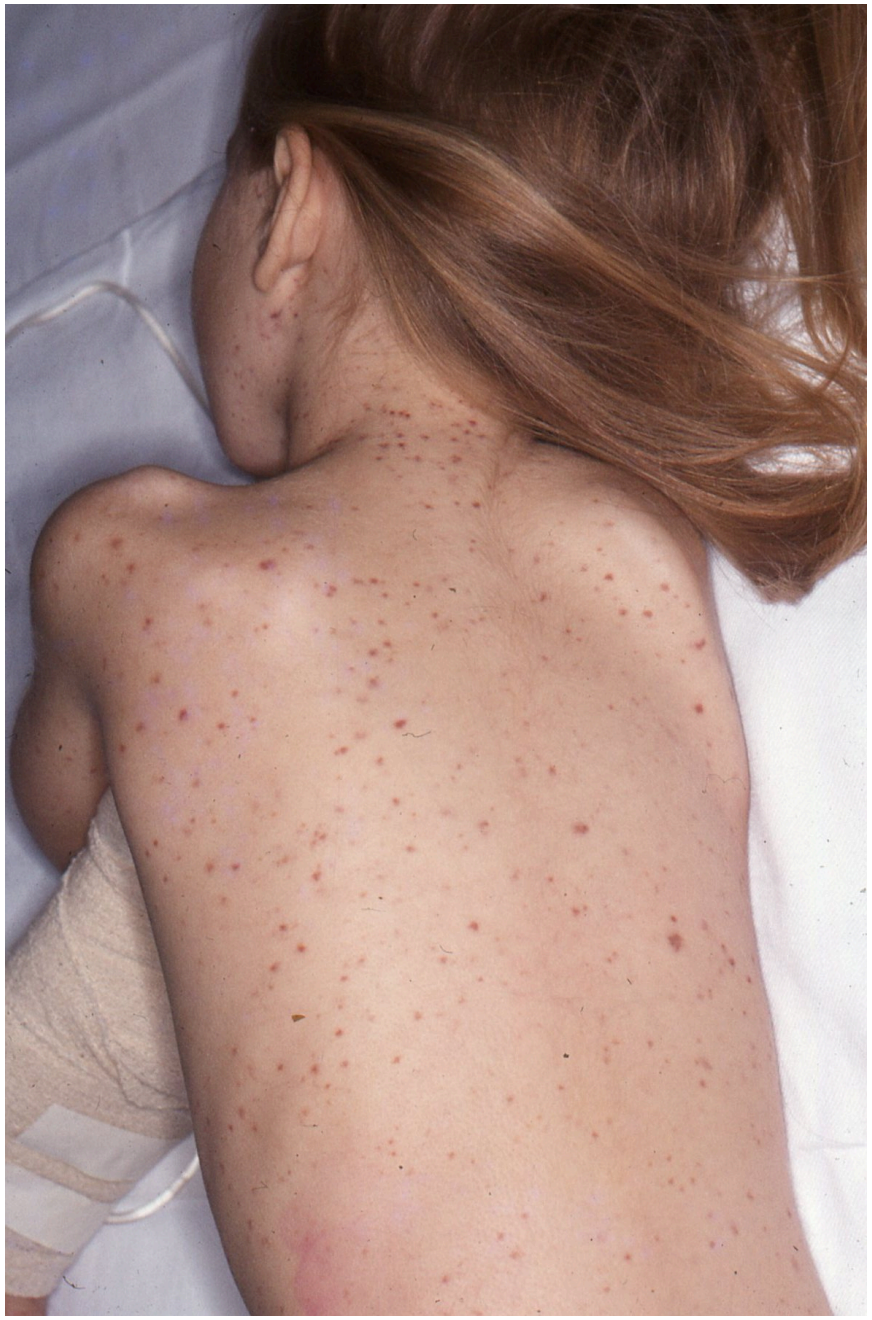
This patient presented very unwell with right periorbital cellulitis, but when her eyelid was raised she was blind and could not move her eye. What nerves were damaged and what was the site of the causative pathology (in other words where do the nerves affected come into proximity)?



She was blind, therefore the Optic (second) cranial nerve was involved, she could not move her eyeball at all so the Oculomotor (third), Trochlear (fourth), and Abducent (sixth) cranial nerves were all involved.

She had (septic) cavernous sinus thrombosis. The risk factor was plucking her eyebrows (presumably the organism had entered via the “raw root” of the plucked hairs. The picture above shows her after recovery. She remained blind and the eyeball remained in the midposition.

This girl had signs of meningeal irritation.
What is the diagnosis?

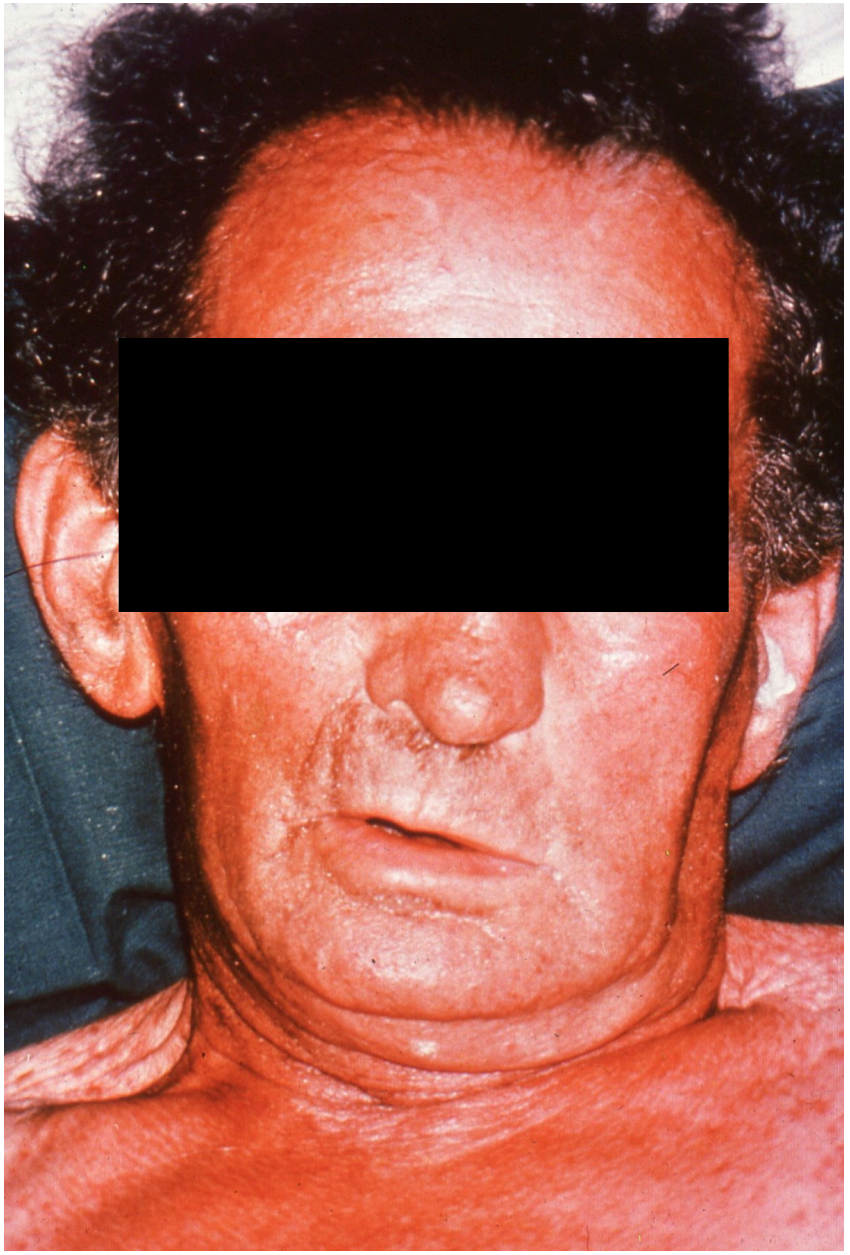


This is the petechial rash of meningococcal septicaemia. The management priority is to give her antibiotic effective against this organism. Currently ceftriaxone is favoured over penicillin.

This man had a facial weakness.

Which cranial nerve was involved?

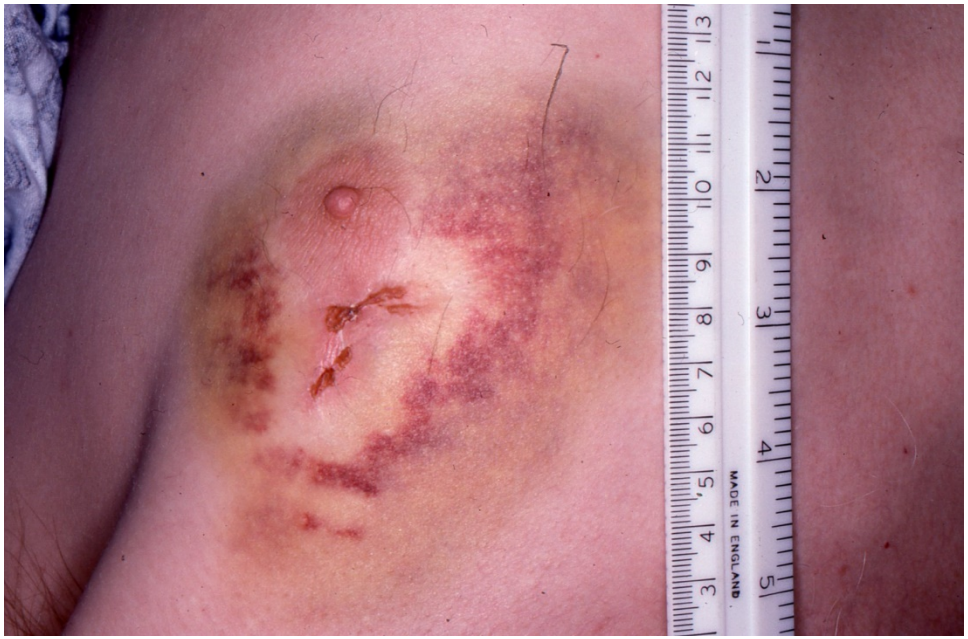
And what had caused this?



He has a left facial nerve palsy. He had this because he had a discharging left ear because of middle ear sepsis secondary to a cholesteatoma and the sepsis would have damaged the Facial nerve. Did you notice the cotton wool in his left ear?

This man had sustained a
dog bite whilst visiting Manitoba
in the USA.

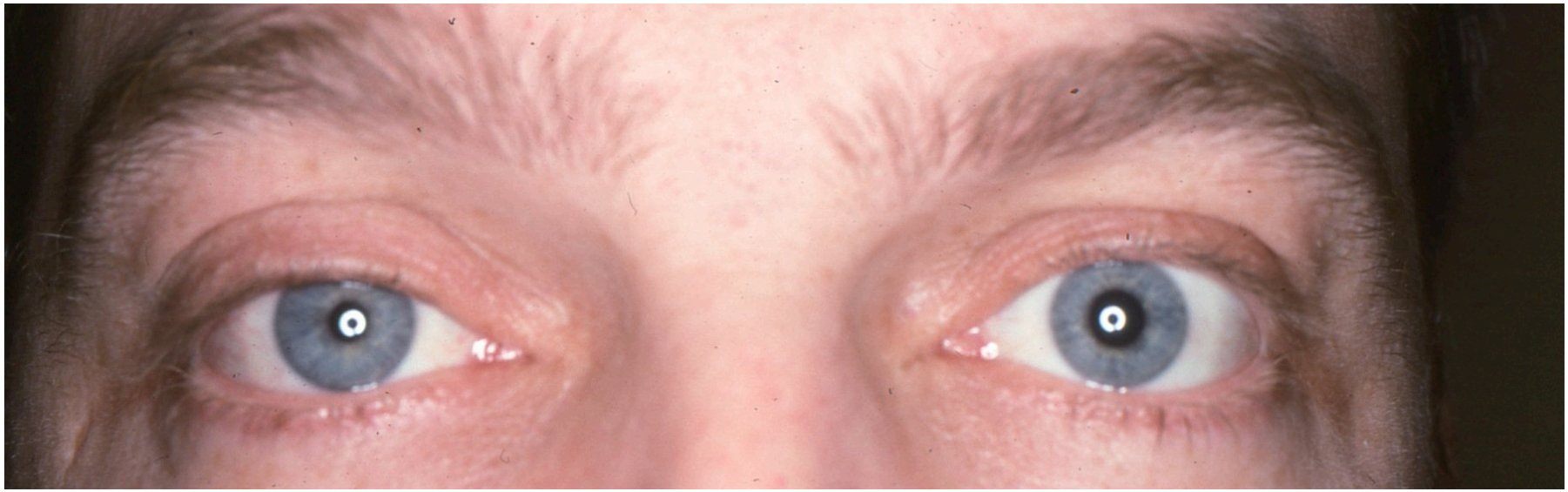
What preventative measures should
be taken?



Rabies prevention should be considered. A phone call (often the cheapest of any investigations) is required to ascertain whether there is any rabies in Manitoba and decisions made according to the answer.

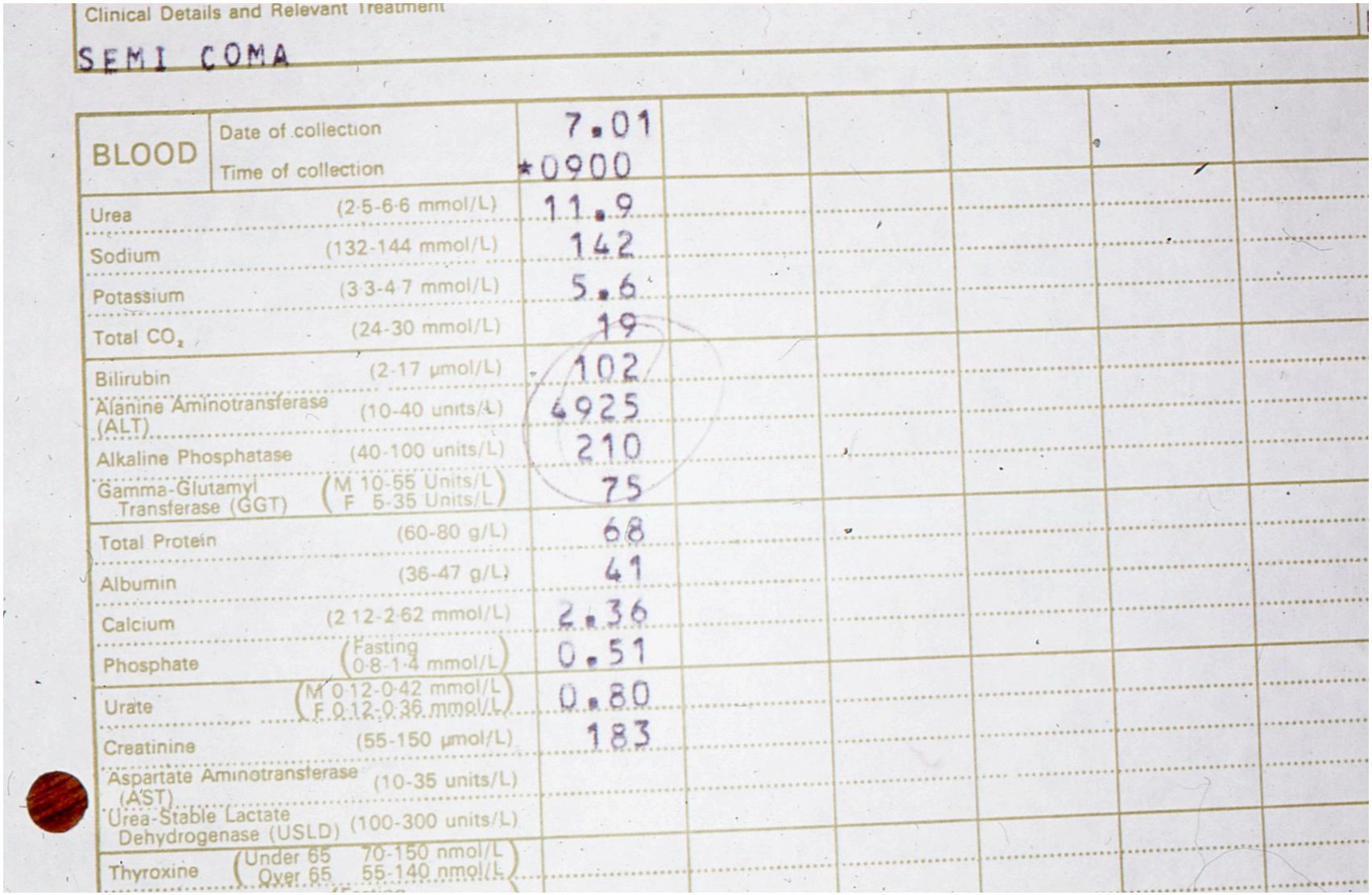
Tetanus prevention is important. Classically if a wound is a serious risk wound then a penicillin should be given (a tetanus booster might not boost immunity quickly enough) and in a really high risk wound then tetanus immunoglobulin (particularly if previous tetanus immunisation cannot be ascertained) should be considered. The penicillin given is often co-amoxiclav because this is active against common likely organisms (Staphylococci, Streptococci, *Pasturella multocida*. Local protocols should be consulted.

Of course dog bites provide a risk of tetanus? Think about this. Do dog mouths contain *Clostridium tetani* or its spores? No. So why worry? The worry is that most dog bites are contaminated with soil or other stuff that may contain the organism or spores.



After a severe right sided headache this man developed the appearance shown. What is the syndrome and what are its characteristics?

This patient has a right sided Horner's syndrome. He has a small pupil (miosis), a partial ptosis (Horner's syndrome never produces a complete ptosis, whereas a third nerve lesion can do so), loss of sweating, and a slightly sunken eye, The occurrence of a sunken eye is said by some not to occur in humans – but it is seen on this picture!



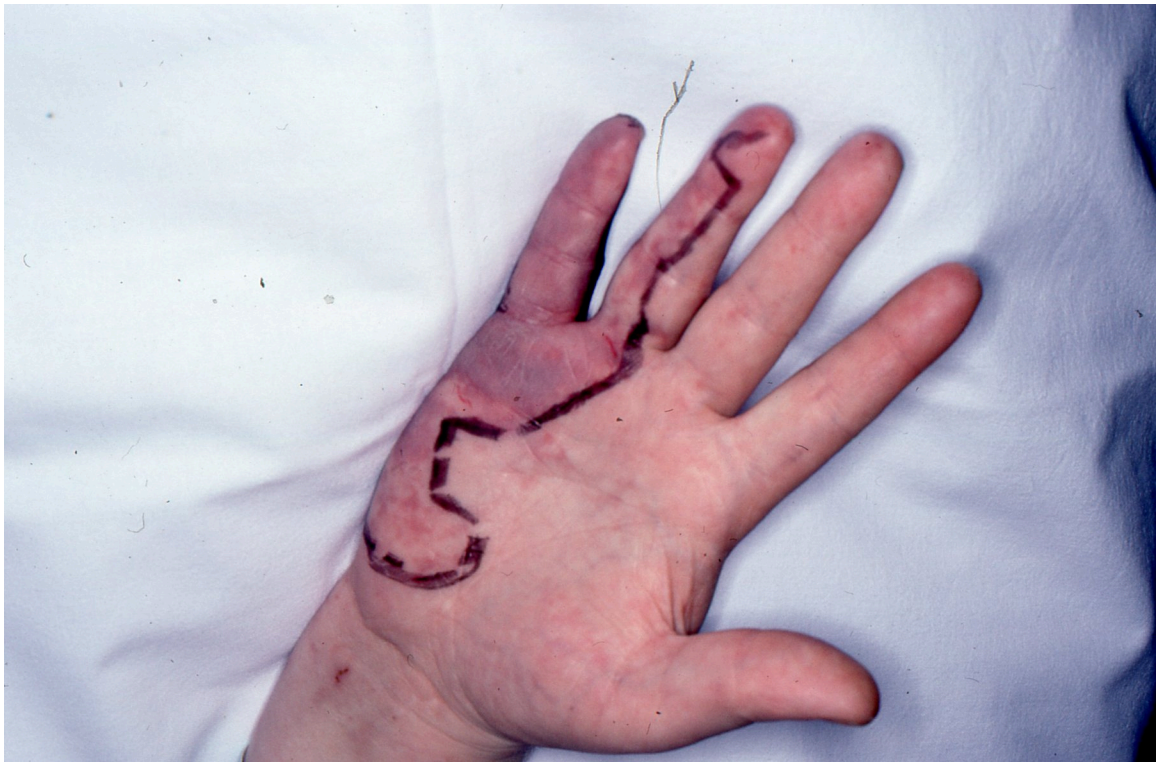
Clinical Details and Relevant Treatment

SEMI COMA

BLOOD		
Date of collection		7.01
Time of collection		*0900
Urea	(2·5-6·6 mmol/L)	11.9
Sodium	(132-144 mmol/L)	142
Potassium	(3·3-4·7 mmol/L)	5.6
Total CO_2	(24-30 mmol/L)	19
Bilirubin	(2-17 µmol/L)	102
Alanine Aminotransferase (ALT)	(10-40 units/L)	4925
Alkaline Phosphatase	(40-100 units/L)	210
Gamma-Glutamyl Transferase (GGT)	(M 10-55 Units/L F 5-35 Units/L)	75
Total Protein	(60-80 g/L)	68
Albumin	(36-47 g/L)	41
Calcium	(2 12-2·62 mmol/L)	2.36
Phosphate	(Fasting 0·8-1·4 mmol/L)	0.51
Urate	(M 0·12-0·42 mmol/L F 0·12-0·36 mmol/L)	0.80
Creatinine	(55-150 µmol/L)	183
Aspartate Aminotransferase (AST)	(10-35 units/L)	
Urea-Stable Lactate Dehydrogenase (USLD)	(100-300 units/L)	
Thyroxine	(Under 65 70-150 nmol/L Over 65 55-140 nmol/L)	

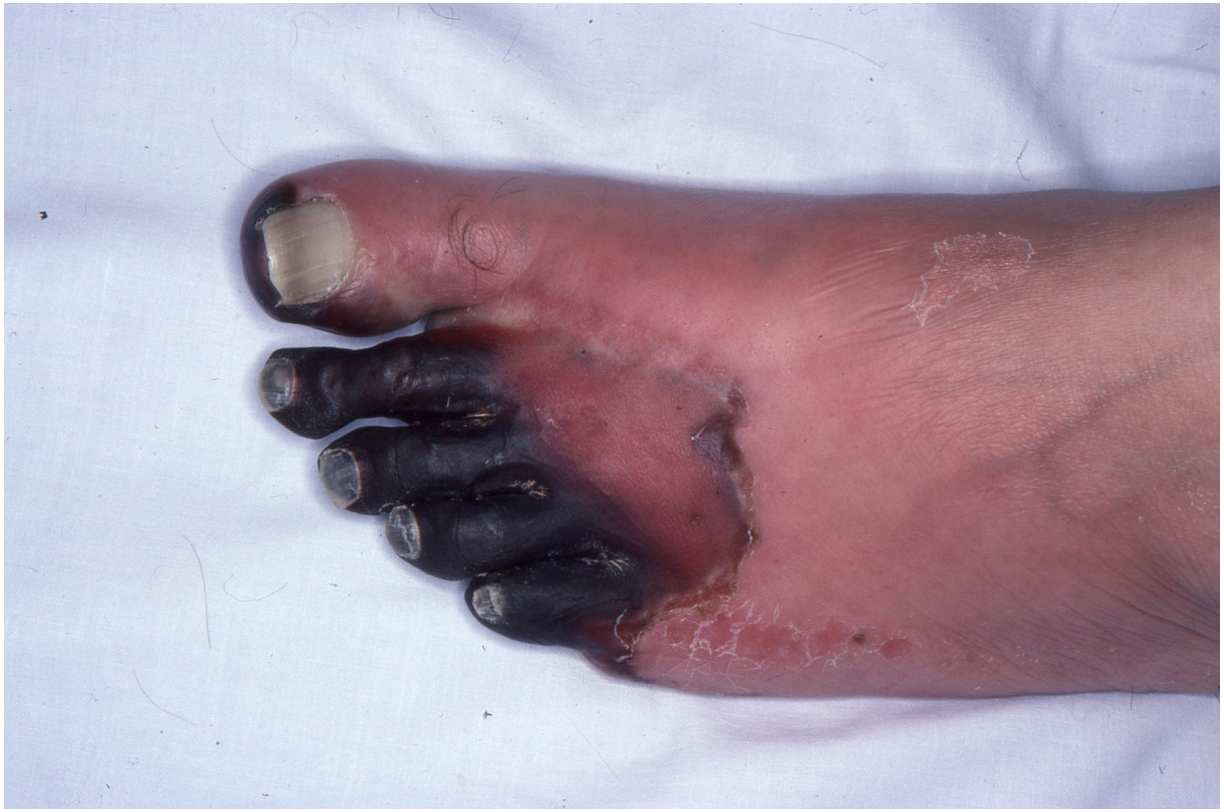
About a week after attempting suicide by slashing her wrists this young woman was referred with possible infectious hepatitis. Which two features are unusual for a simple viral hepatitis and indeed suggest another diagnosis?

Usually with an acute viral hepatitis the ALT will be high but not as high as that shown, The urea is high. As the form clinical details state, she is in “semi coma” and thus almost certainly has hepatic failure and in this situation the urea is characteristically low, but in contrast this patient’s urea is raised. So something has damaged her liver **and** kidneys. There was no reason to suspect leptospirosis (which could do this) but every reason to suspect that she might have taken other steps in her suicide attempt, and her step was to have taken paracetamol which can cause sequentlial liver then hepatic failure. Measuring her serum paracetamol levels will not be helpful – the tissue damage is caused by paracetamol *metabolites* and thus her serum level may well be zero at the time she presented. Paracetamol metabolites should be sought in blood and/or urine.



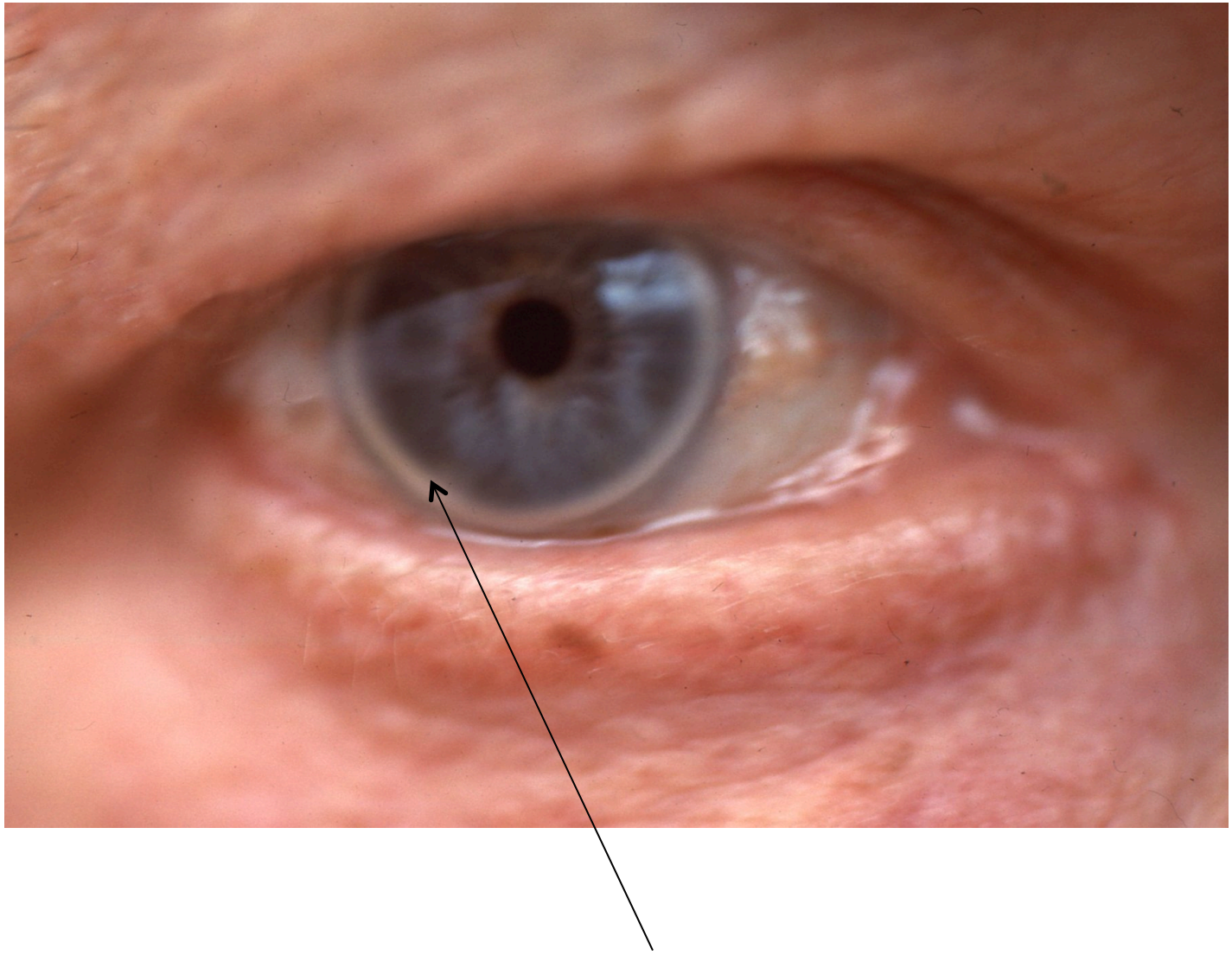
This intravenous drug abuser had managed to do what?

He had injected his ulnar artery (with temazepam). The area of skin tissue damage may be variable because there is cross circulation with the radial artery in the hand.



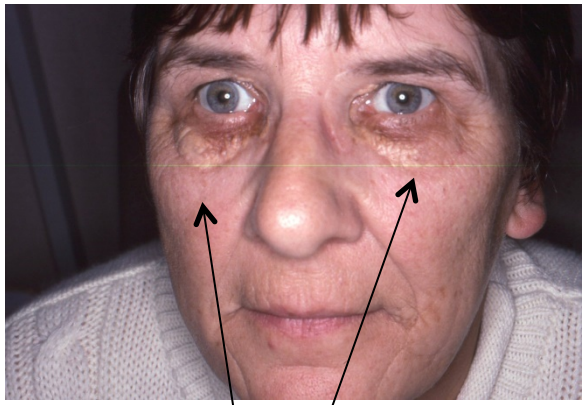
What is the (one word) diagnosis

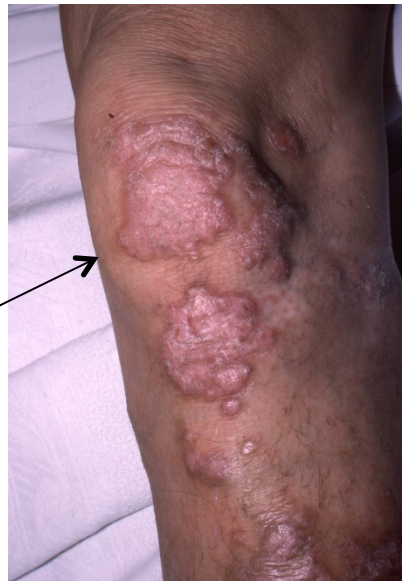
Gangrene. Predisposing causes include diabetes mellitus, peripheral vascular disease, and embolism from a proximal source



What is this and what are the implications?

This is arcus senilis and it may be a normal sign of aging and/or may suggest arteriosclerosis

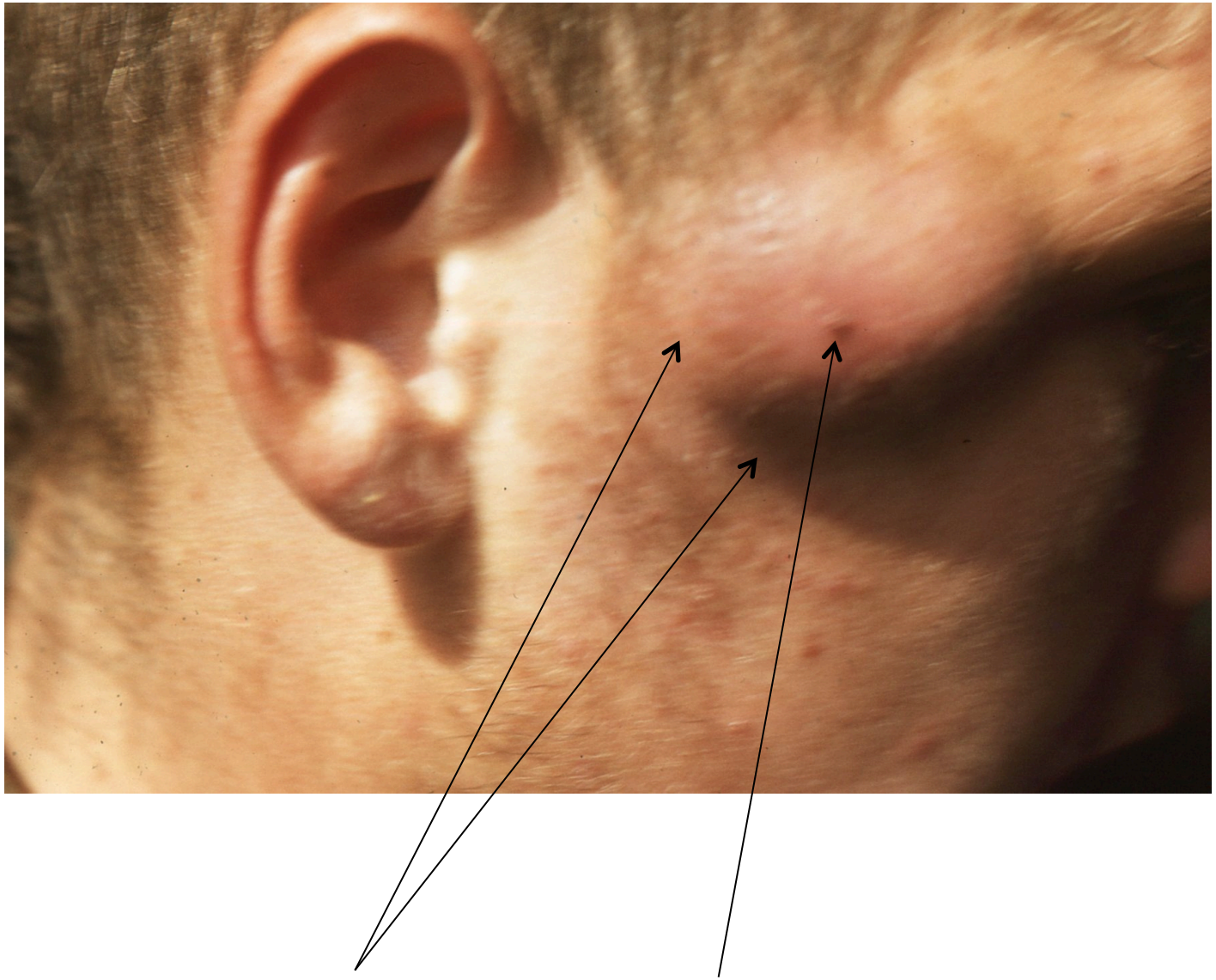




What are these and what significance may they have?

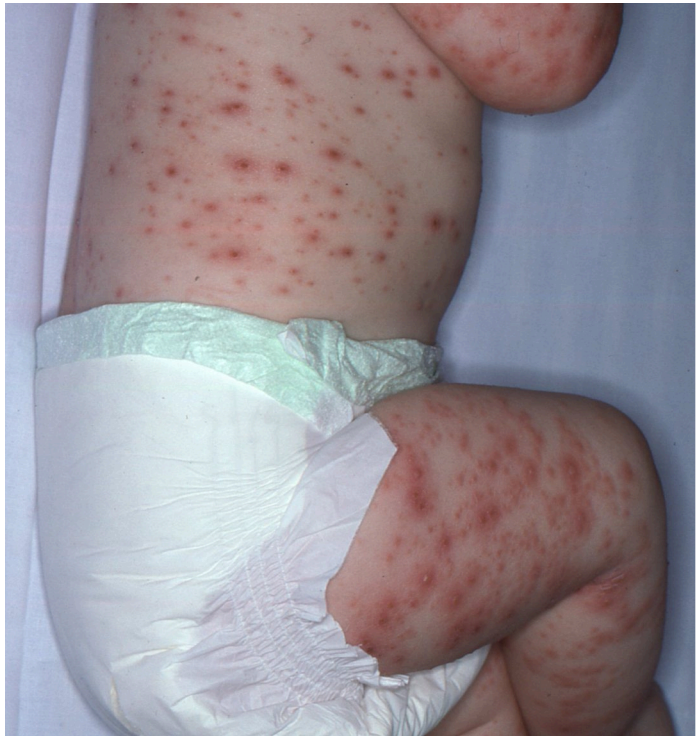
On the left were shown xanthelasma palpebrarum that are well demarcated deposit s of fat beneath the skin around the eyes. In themselves they are asymptomatic, but they may cause cosmetic embarrassment. They are not uncommon in people of Asian origin. They may be associated with hypercholesterolaemia and risks of atheroma.

On the right were shown tendon xanthoma that are associated with hyperlipidaemias, both primary and secondary types. Tendon xanthomas are classically associated with Type II hyperlipidemia, chronic biliary tract obstruction and primary biliary cirrhosis but palmar xanthomata and tuboeruptive xanthomata (over knees and elbows) are more often associated with Type III hyperlipidaemia.



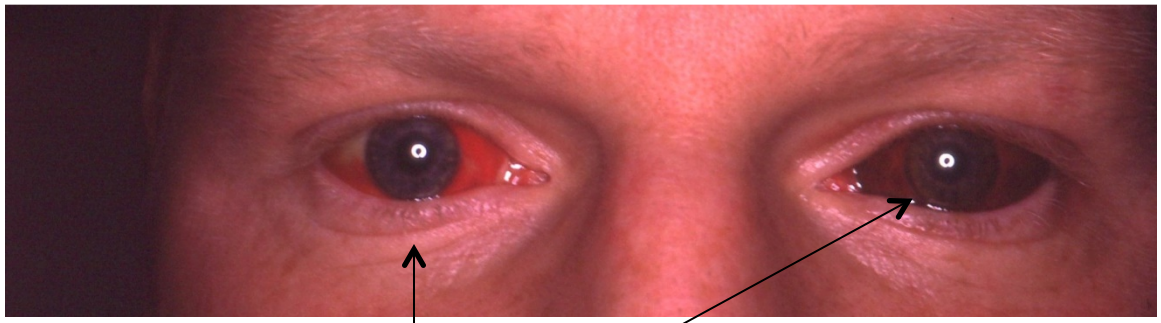
What is this and what is the significance of this?

This is an inflamed lesion, which was red, swollen, painful
and hot to touch. It is has the typical appearance of a boil
But the central lesions is a punctum and suggests that
This is in fact an infected sebaceous cyst.



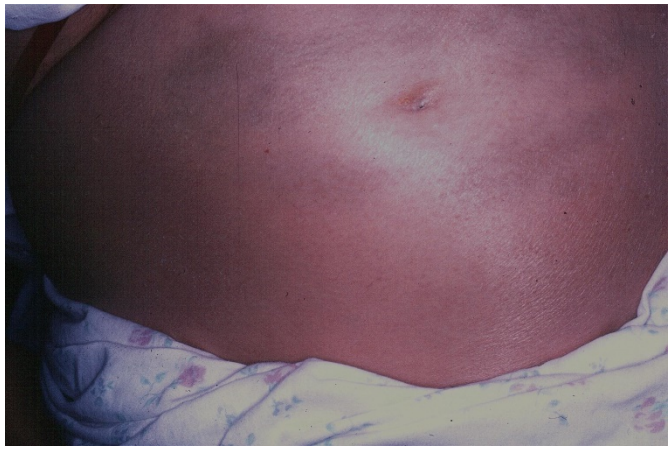
Of what infectious disease is this appearance typical?

This is chickenpox. Characteristically there are about five crops
of itchy vesicles that rapidly turn into pustules. They usually heal
without scarring unless gouged out be scratching fingernails.
Provided that the mother has previously had chickenpox, babies
are usually protected for about the first six months of extra-uterine life.

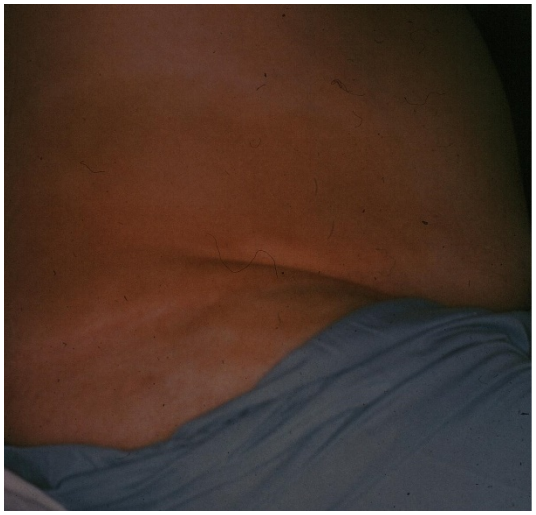


What ere these and what may they signify?

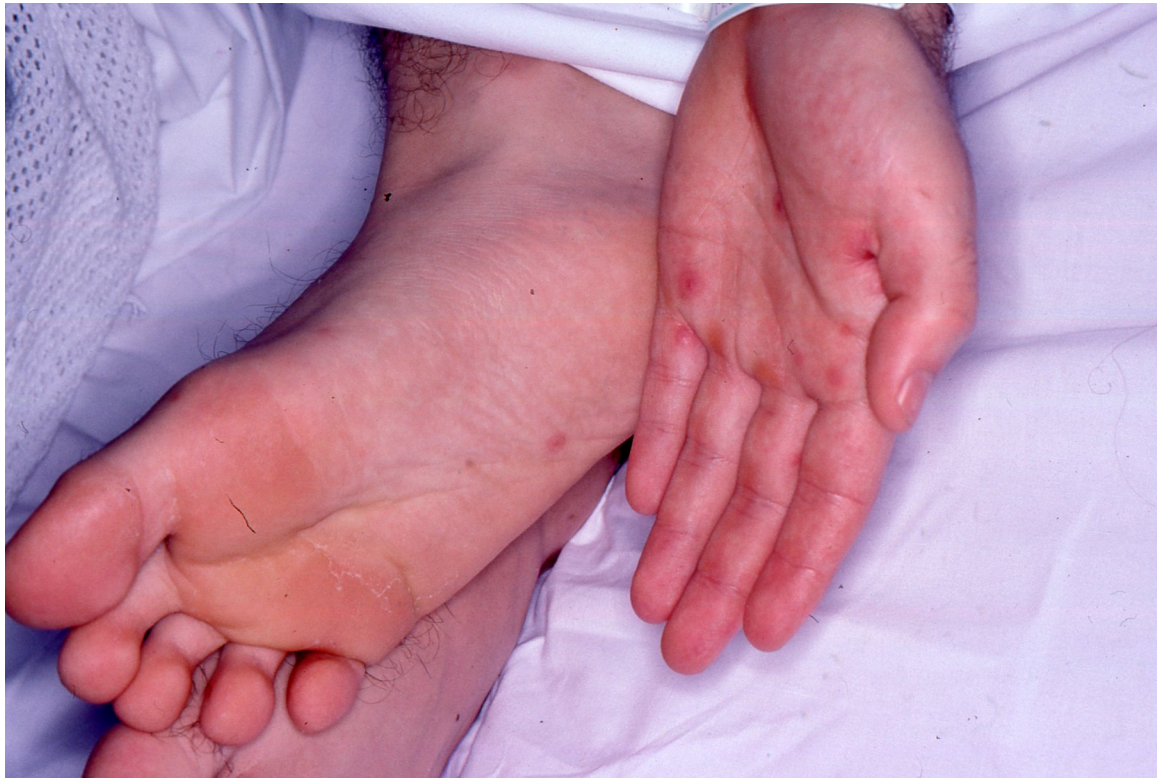
These are subconjuctival haemorrhages. The conjunctiva contains many small, fragile blood vessels that are easily ruptured or broken. These blood vessels are some of the most ill -supported blood vessels in the body and small haemorrhages (petichiae) may be evident in the conjunctiva before they are appear in the skin (in meningococcal septicaemia for example). They may be caused by raised intrathoracic pressure, especially if abrupt, as may occur in sudden or severe sneezing or coughing. Sometimes high blood pressure, anticoagulants or blood disorders may be present. The patient illustrated had adult whooping cough, which is typically associated with high intrathoracic pressures.



Whose names are attached to these two pictures and what is the underlying pathology?



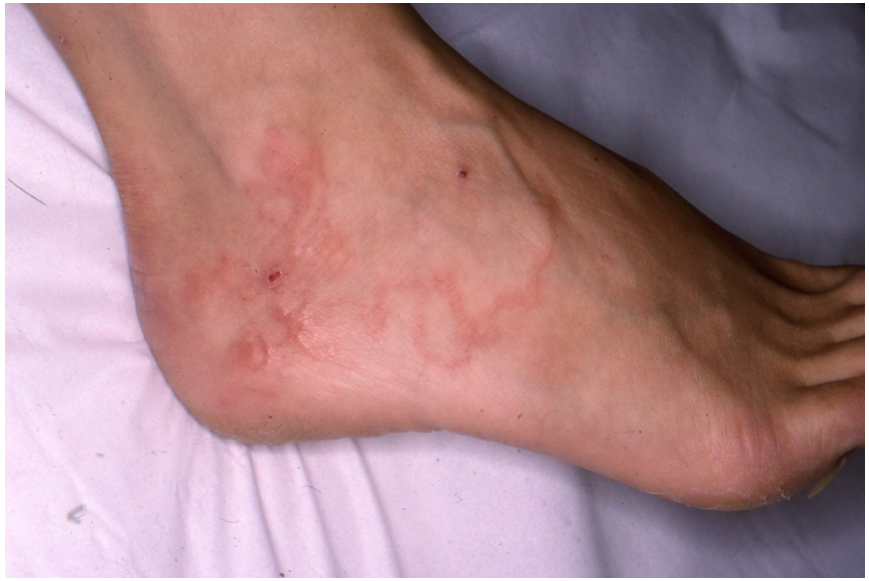
The upper picture is of peri-umbilical bruising (Cullen's sign) and the lower picture if of flank bruising (Grey Turner's sign) . Both
are caused by leakage of pancreatic enzymes from underlying pancreatitis. These digest tissue and give the bruising appearance.



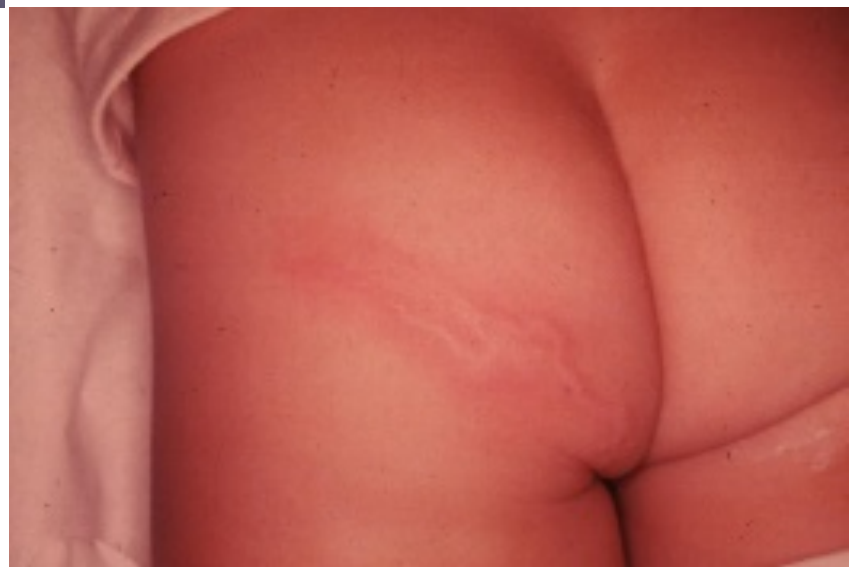
This young boy also had intraoral vesicles. What is the name of the condition and what is the cause?

This is hand, foot and mouth disease – named for obvious reasons.

The most common viruses that cause this are the enteroviruses, notably Coxsacke A . It is a common, highly contagious infection that usually causes a mild febrile illness followed by a a rash on the hands, feet and in the mouth. It may be macular but is usually vesicular in nature.



What are these two appearances caused by?



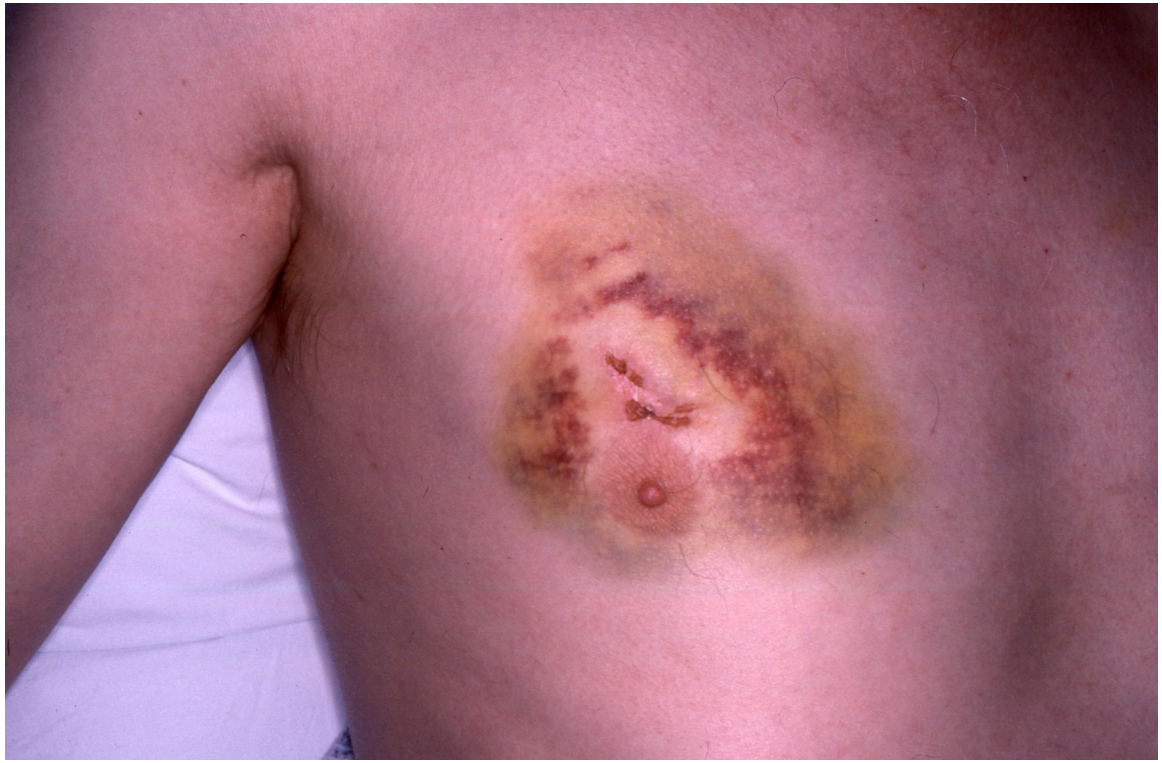
The upper picture is cutaneous larva migrans, and is caused by the larvae of dog (usually) hookworm that penetrate the skin and cannot get into human veins or lymphatics and are fated to wander around in the skin, causing intense irritation until they die (have some sympathy!).

The lower picture is of cutaneous larva migrans. This can be acquired by human-to-human spread. The victim treads on a stool containing larve, these then migrate into the veins, then to the lungs where they wiggle up into the trachea and over into the oesophagus. The larvae proceed to the gut, mature and produce their own larvae that are excreted in the stool to complete the life cycle. But the larvae can penetrate the perianal skin and complete their (interesting!) life cycle within a single host. The message is clear – do not visit bush latrines without wearing shoes.

What does this picture show?

And why might the underlying condition (what is its name?) predispose?

This child is markedly dehydrated, caused by an infection in associated with the Pierre Robin Syndrome in which there is a small mandible (micrognathia) posterior displacement or retraction of the tongue, and possible upper airway obstruction. All of these make feeding difficult , especially when the child in unwell for any reason. Cleft palate may be associated.



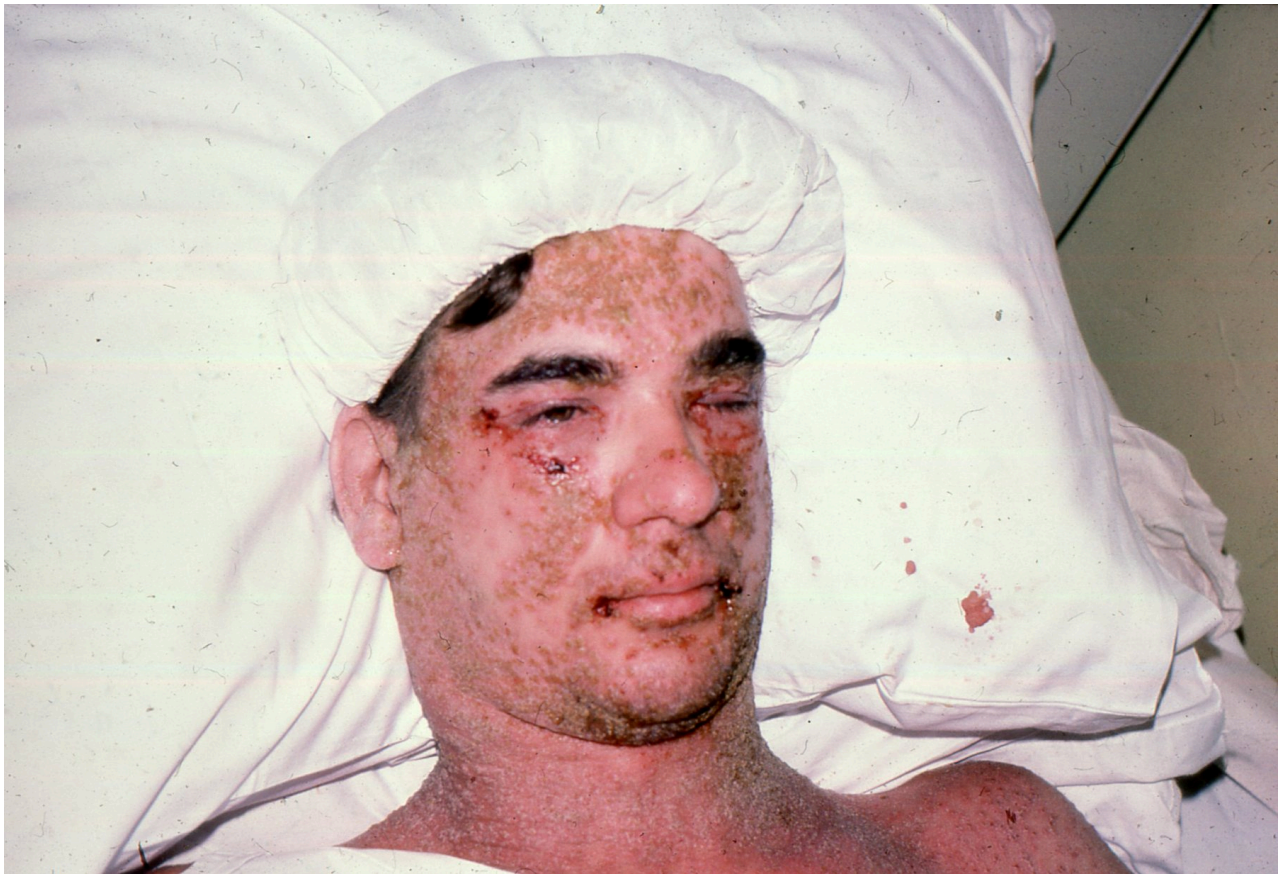
This was the result of a dog bite. What factors should be considered
In the treatment?

Factors to be considered in treatment include:

Antibiotics? Dog bites may be associated with polymicrobial infection, including anaerobes and coamoxiclav is often used .

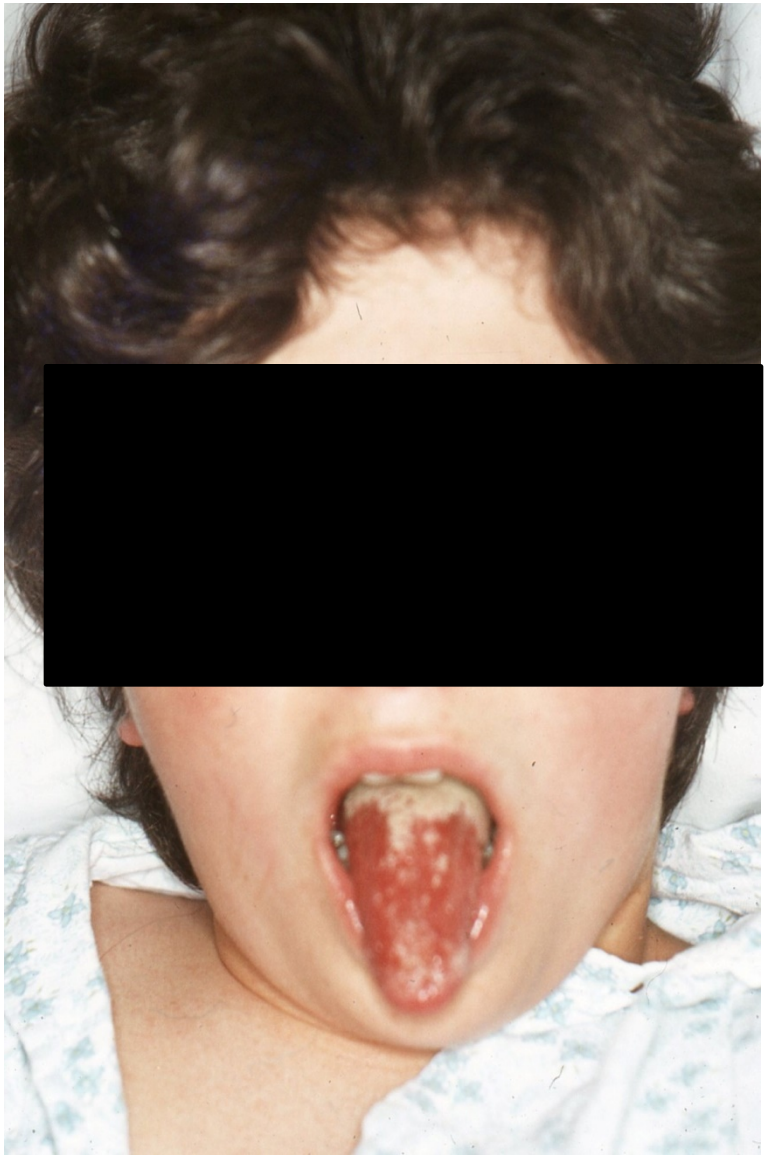
Tetanus immunization? In theory after a simple dog bite there should be no need for immunization (dogs do not harbour *Clostridium tetani* or their spores in their mouths, but if there is, as often is the case, contamination with dirt then appropriate immunization should be undertaken.

Rabies immunization? This depends on the geographical location where the bite was received – rabies is not present in the UK for example.

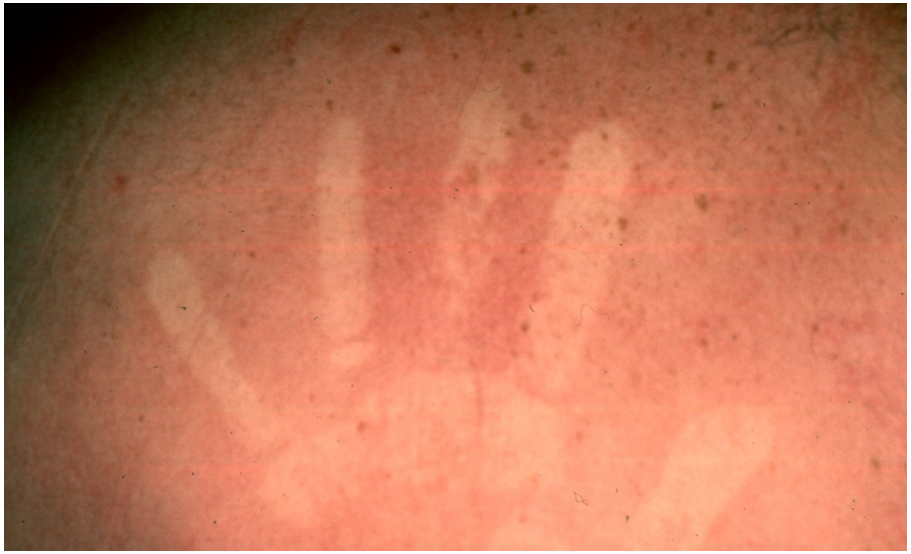


This man had eczema. What complication had occurred and
What is the likely after effect on his appearance?

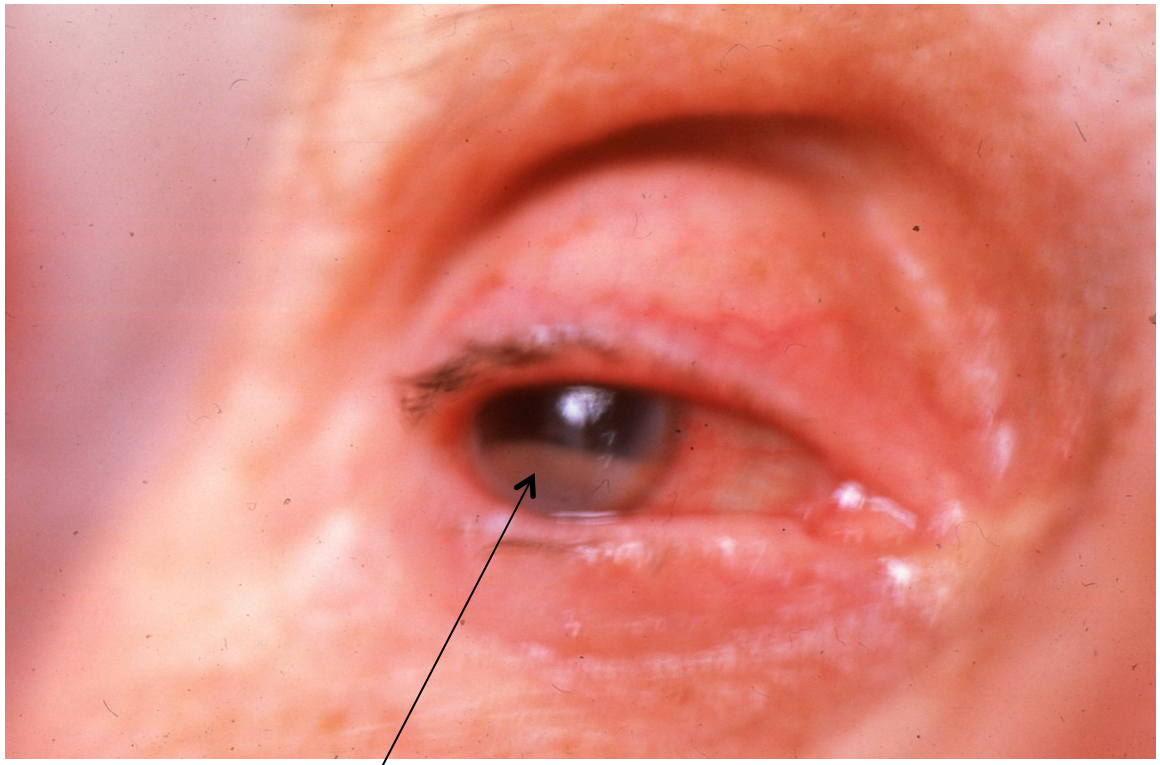
He had infection with *Herpes simplex* – eczema herpeticum. Usually there is little long term effect, although transient skin discoloration may take time to resolve.



This young woman presented acutely unwell with hypotension, the tongue appearances as shown and a blanching appearance when a hand was pressed on her back. What is the significance of the blanching, what is the diagnosis and what might need to be removed?

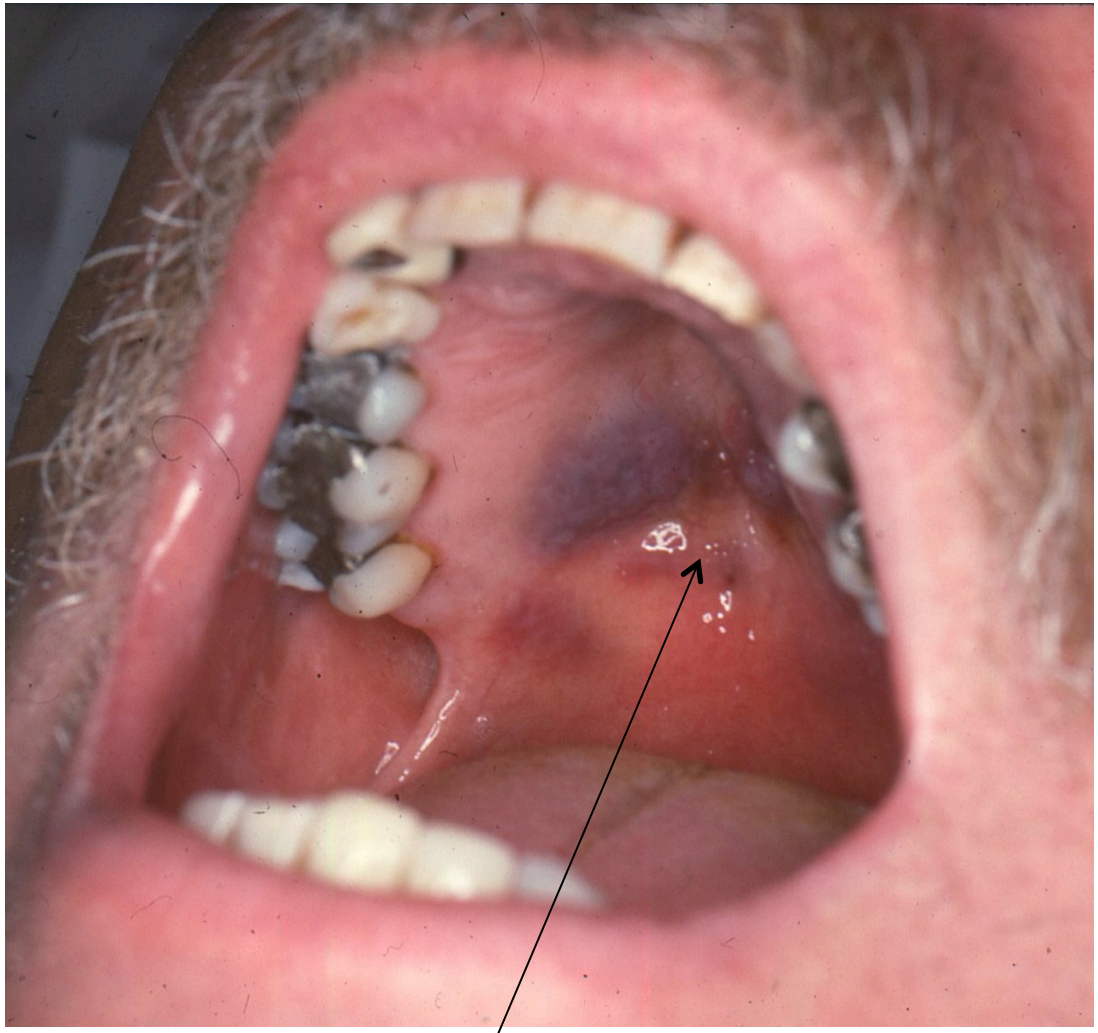


The marked erythema with blanching suggests very significant vasodilation, as did the hypotension. The diagnosis is Staphylococcal Toxic Shock Syndrome, which is often caused by a toxin released by the bacteria. It is somewhat similar to Staphylococcal Scarlet fever and causes desquamation of the tongue as illustrated. Tampons were often the site of the infection (changes in tampon production have now reduced this possibility) and should be removed and sent for culture.



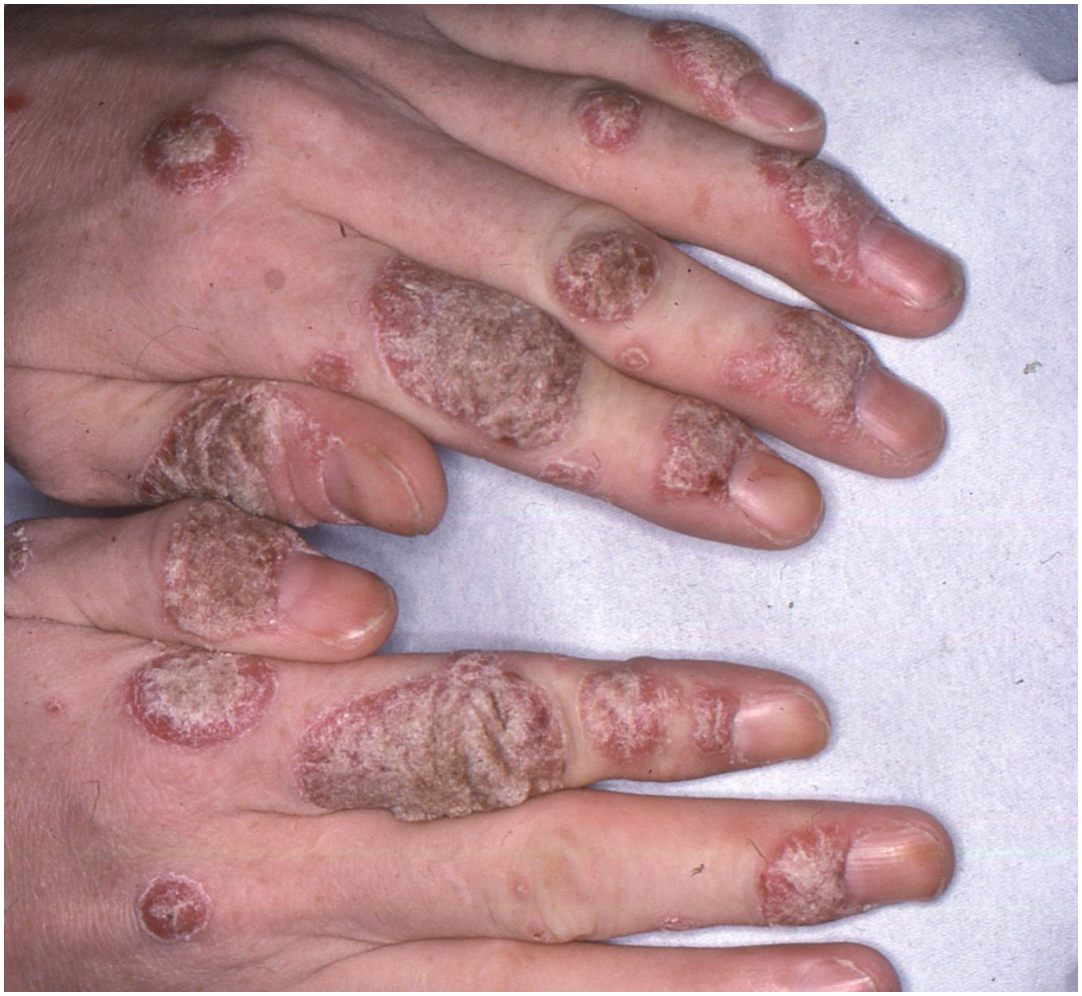
What is this?

This is a hypopyon, an exudate of leukocytes in the anterior chamber of the eye, often accompanied by conjunctival redness. It is a sign of inflammation of the anterior uveal tract and iris. It is one of the few situation where the presence of pus does not usually imply infection.



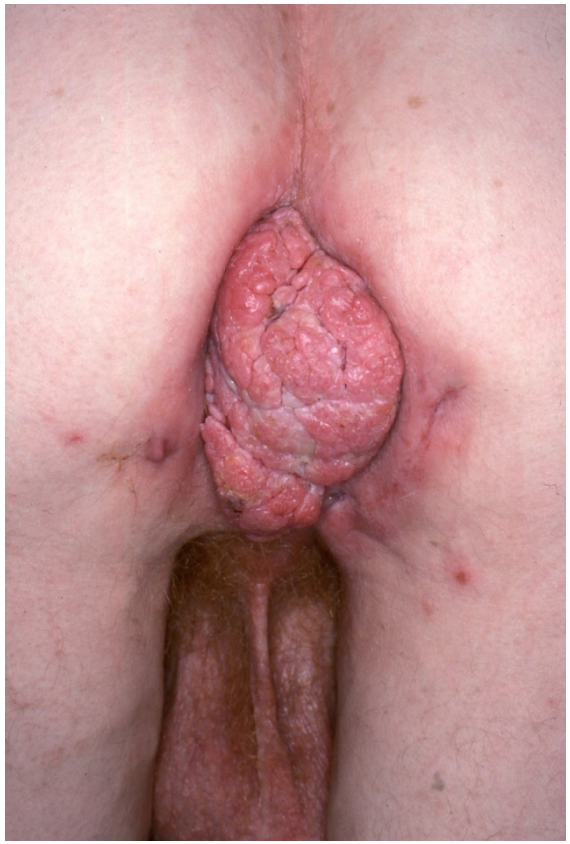
What is the differential diagnosis of this palatal lesion?

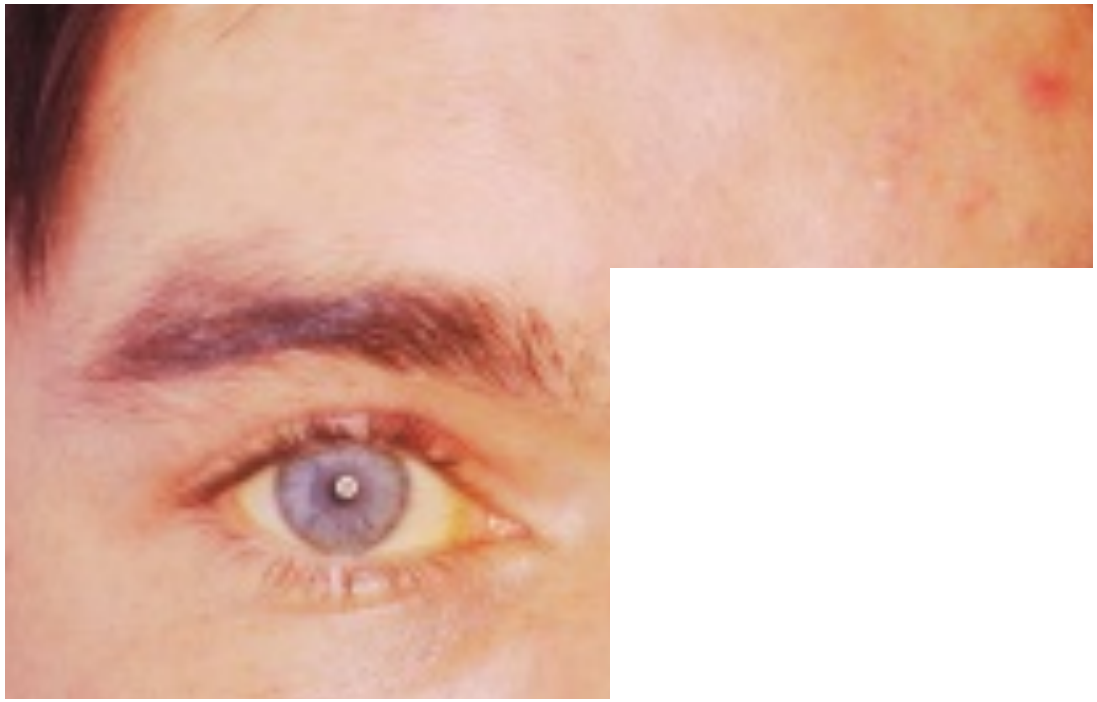
This could be simple bruising from something being poked in the mouth,
But, much more likely, it is a pigmented lesion and the differential diagnosis would be Kaposi's sarcoma or malignant melanoma. It was a Kaposi's sarcoma which usually occurs in late stage HIV in gay men rather than in intravenous drug users (Kaposi's sarcoma is associated with *Herpes virus* Type 8 which is a sexually transmitted infection).



What are these and why might they be so florid?

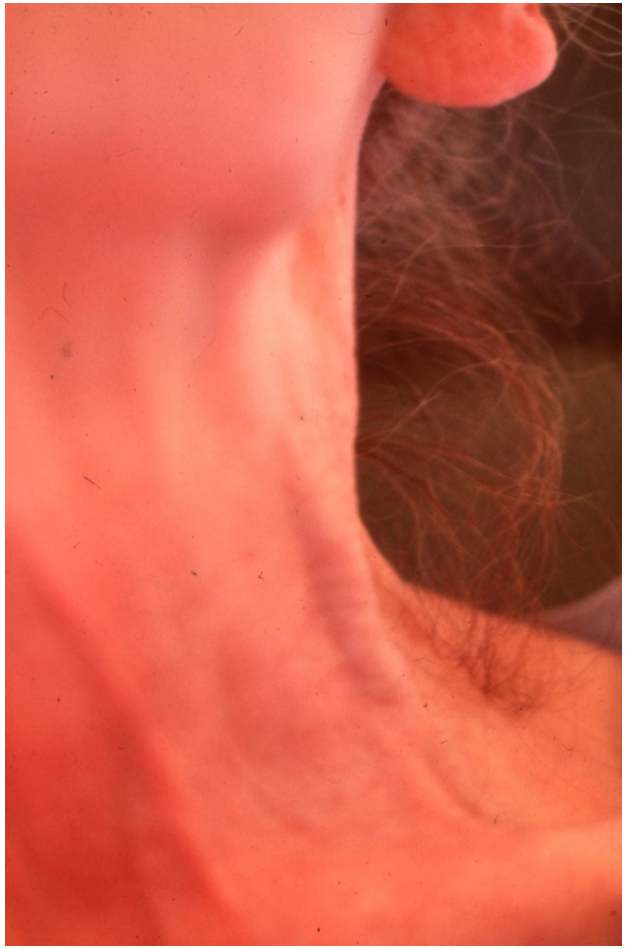
These are “simple” warts, rendered florid by depressed cell-mediated immunity, in this case associated with AIDS. Sometimes warts can reach incredible size. “Incredible” for three reasons, the size itself, or their situation anatomically , and because some patients are too embarrassed to present themselves for diagnosis and treatment. An anal wart is illustrated.

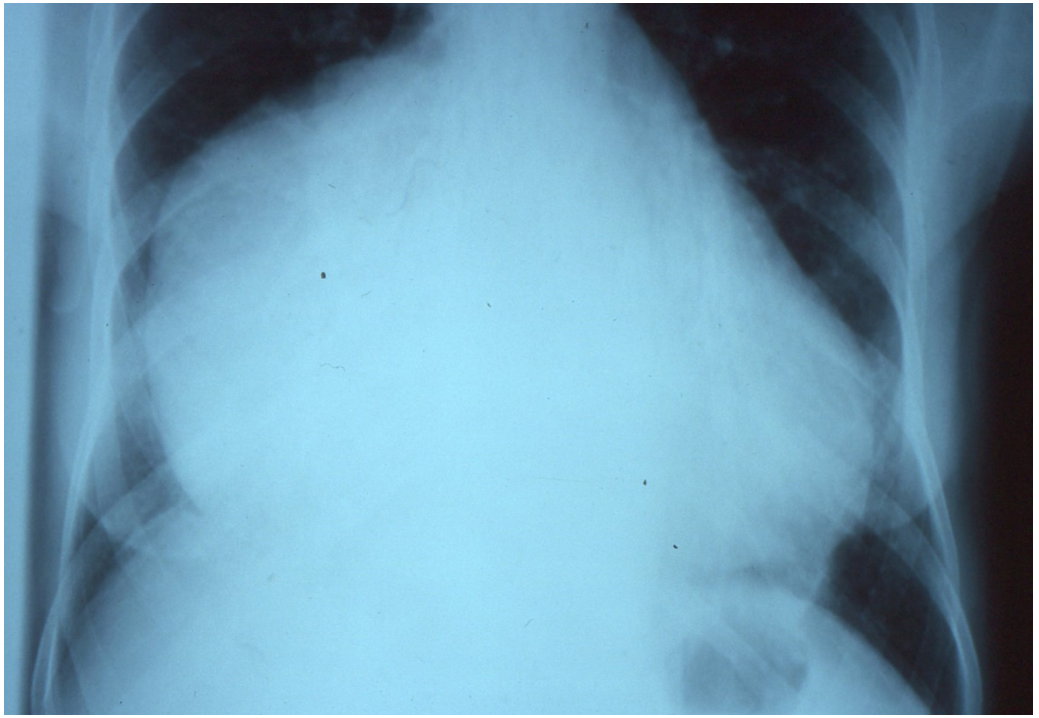




This young man presented with a pneumonia, mild jaundice and disordered liver function tests. The appearance of he eye suggested the diagnosis (note the spider naevus which usually denotes chronic liver disease although they can occur in acute liver disease and pregnancy). What was the diagnosis?

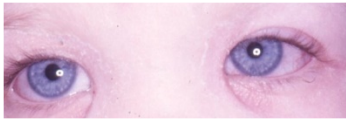
The eye appearance are those of a Kayser-Fleischer ring, dark rings that encircle the iris. They are caused by copper deposition in Wilson's disease, which can also cause a form of cirrhosis

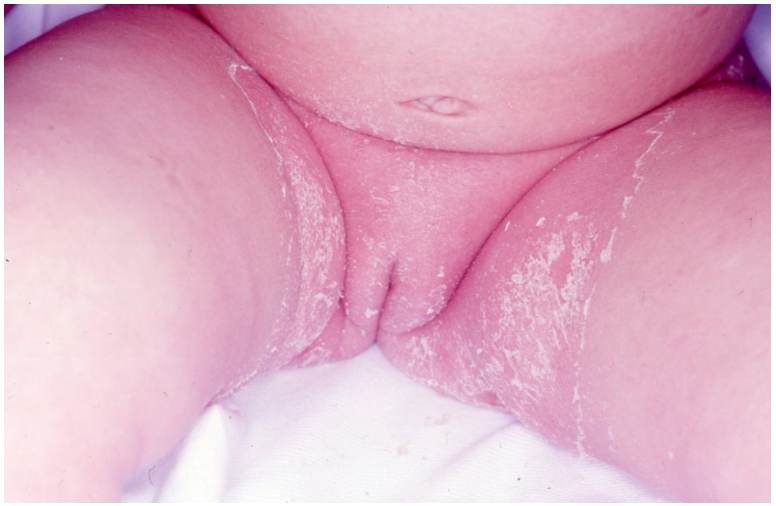


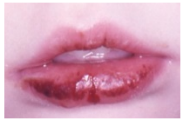


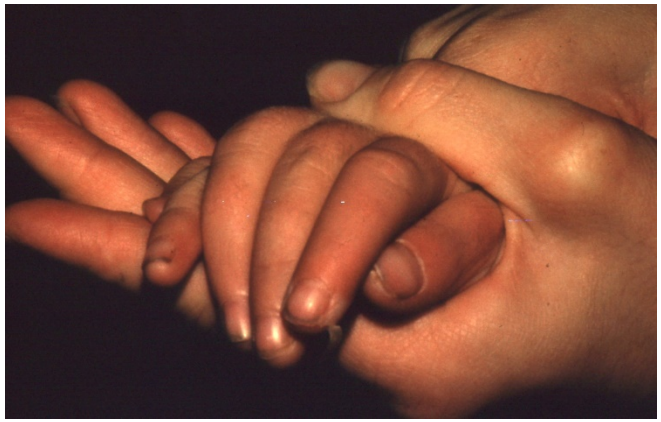
What is shown in the picture on the left? What is its cause (look at the picture on the right) and what clinical signs might you find of this?

These are very high and very distended jugular veins. They are caused by cardiac tamponade in association with a tense pericardial effusion (caused In this case by malignant deposits from a breast cancer). The signs of tamponade may include:
A low blood pressure, a pulse that diminishes in volume on inspiration (the heart get even more compressed by the expanding lungs,) a jugular venous pressure that rises on inspiration for the same reasons,
and muffled heart sounds.



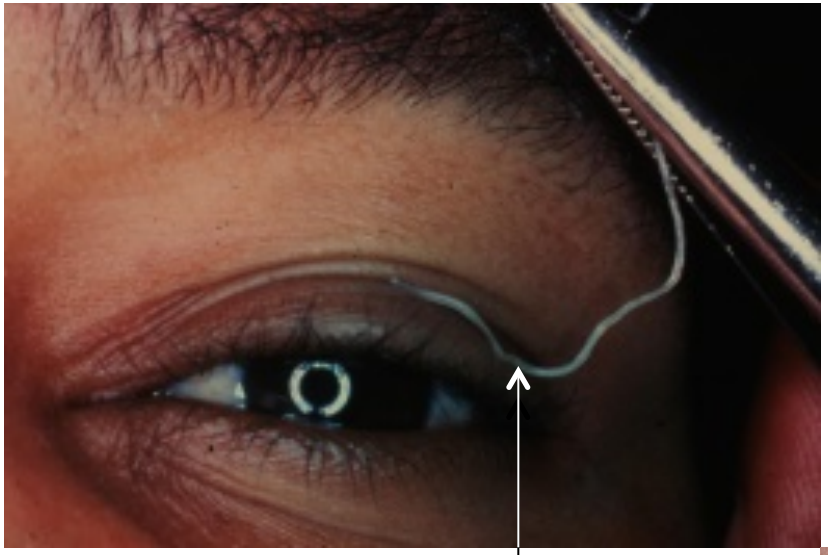


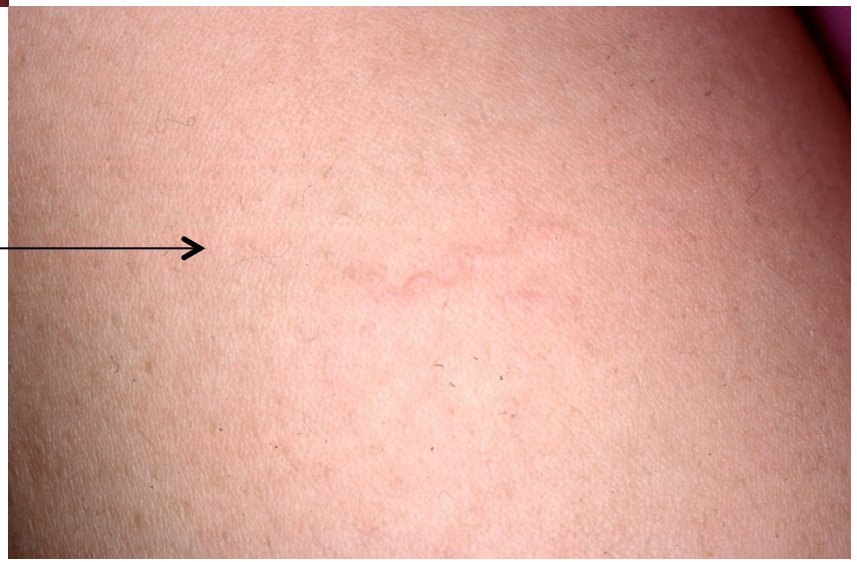




This young child presented acutely unwell with high fever, a peeling skin rash, and some peeling of the skin by the nails. What is the diagnosis? What other abnormality Is present on the photograph of the nails?

This is Kawasaki's syndrome, which is much more common in Japan, and which is almost certainly caused by infection. There may be cervical lymph node enlargement (the other name is mucocutaneous lymph node syndrome). Arteritis, particularly of the coronary arteries, and nail fold peeling in the later stages is characteristic. The white cell count and ESR are usually high and treatment is with high dose intravenous immunoglobulin.

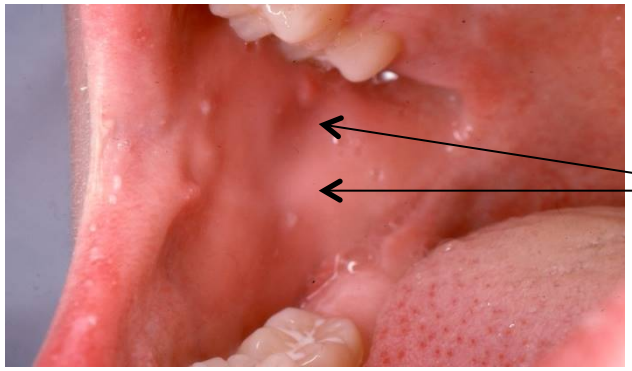




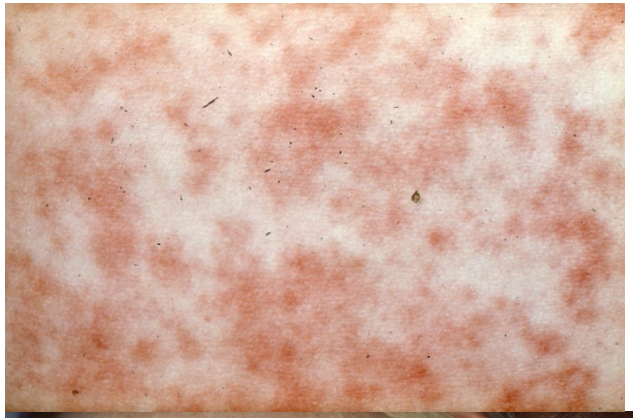
This patient had noted wriggling worms
in her skin and one was extracted from her
eyelid. What is this and where had she been to acquire this?

This is a Loa loa “eyeworm.” It is transmitted by the bite of Chrysops flies. It is present in Africa (mostly west African rainforests) and India. There may be marked urticarial swellings “Calabar swellings” and the worms are difficult to see. Sometimes (as in this case) there is minimal allergic reaction and the worms can be seen.

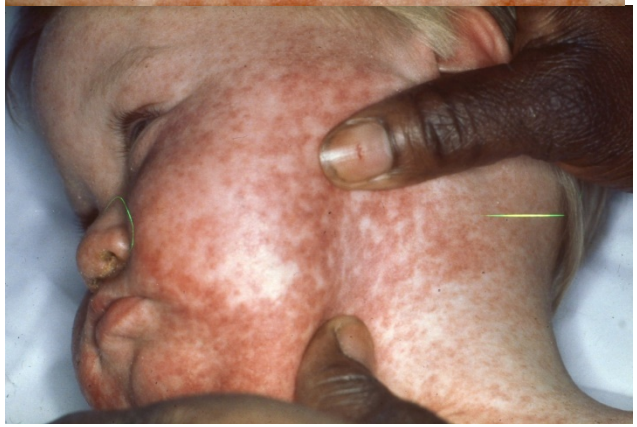
In this instance the patient had been a long case subject in the Diploma of Tropical Medicine and Hygiene exam and she had nipped her skin, extracted one of the worms and given it to the candidate. He then went to a separate room to meet the examiners and dogmatically declared the diagnosis. The examiners asked him “How can you be so certain and how could you prove it?” Whereupon the candidate produced the wriggling worm and deposited it on the examiners’ table. Game, set and match!



A young child developed a fever. There were no abnormal signs apart from some spots in the mouth. What are these?



A few days later a maculopapular rash erupted which initially blanched on pressure. There was a muffled cough and conjunctival redness



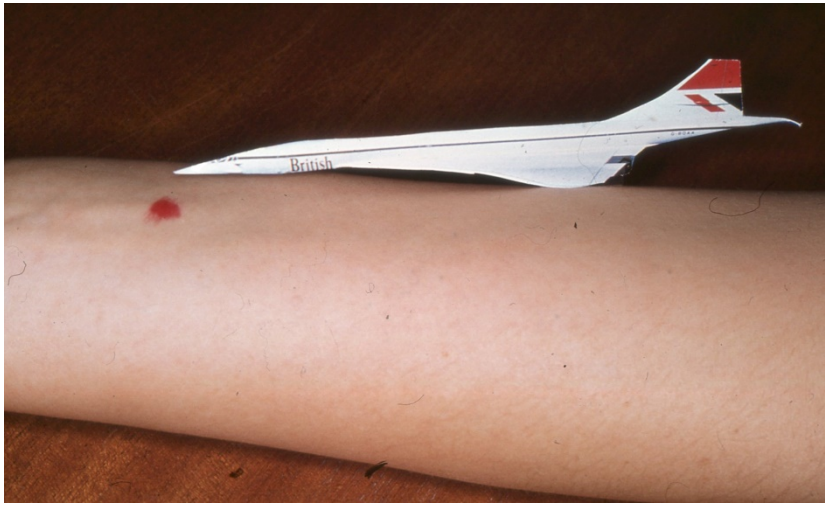
Later the rash stained (did not blanch on pressure).

Of what disease is this progression typical?

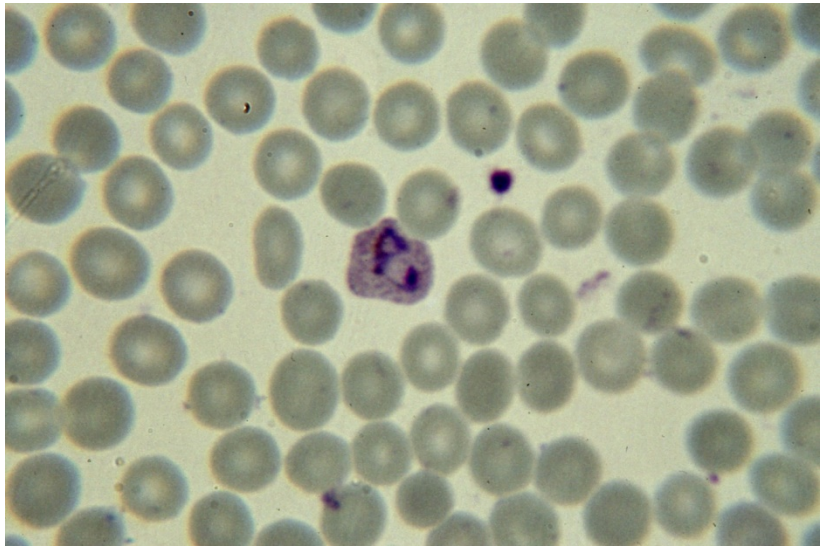
These are Koplik's spots which usually are present 1-2 days before the rash.

The progression is typical of measles. After an incubation period, often 10-12 days, there is fever and malaise, Koplik's spots, and then the rash erupts (starting behind the ears and working downwards) and staining occurs in the same sequence.
This differs from drug eruptions that often erupt diffusely. This is important because "antibiotics given to treat a fever" (ugh!) may have been given to a patient about to get the manifestations of measles and then, to compound the medical misadventure, the doctor may well diagnose an antibiotic -elated rash with the result that the patient may be denied the use of that antibiotic ever after.

Measles is now very rare because of vaccination.

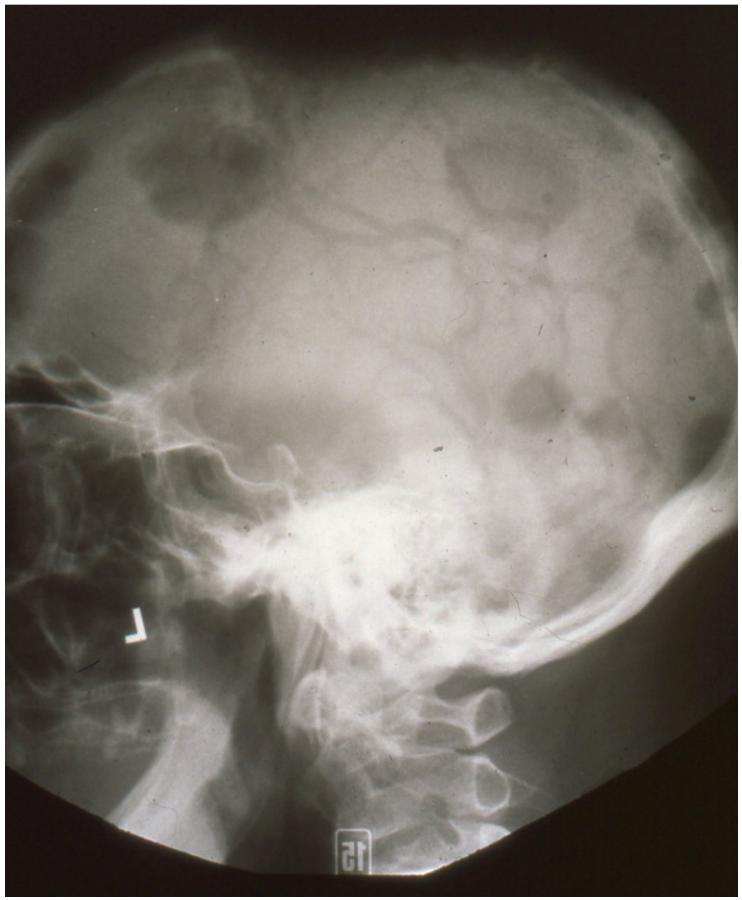


Air travel now means that anyone can be anywhere in the world within 48 hours (given the right credit cards!).
This means that tropical diseases transmitted by air may present in temperate climates.



In this case a patient presented with fever. What is the diagnosis and what would the routine blood count have shown?

The slide shows the ring from of malaria. The full blood count may well be normal – it requires specific stains to demonstrate malarial parasites. A “Full Blood Count” will not reveal parasites – a point of some medico-legal significance if a patient has a delayed diagnosis of malignant (falciparum) malaria.



This patient has a “pepper pot” skull. What is the likely cause and why is it unlikely to be bony secondaries from a primary non-bony malignancy?

These are typical myeloma deposits. Unlike secondary deposits from malignancies elsewhere, there is no bony reaction. The myeloma lesions are osteolytic without an osteoblastic response.