

the bladder, and should feel for prostatic outgrowths, fissures and ulcers. In the bladder, tumours of various kinds, sacculated stones, stones impacted at the orifice of the ureter, sacculi and ulcers are the conditions that may be met with. The nature of most of them will be at once evident. Stone at the orifice of the ureter will be felt as a hard lump at the base of the bladder, covered all over with mucous membrane, and with the finger nail, or a pointed probe, the latter may be pierced and the stone actually felt. Care must be taken not to mistake a bladder inverted by firm suprapubic pressure for a tumour. If a tumour be found, its consistence, size, shape, exact position, and especially its mode of attachment to the bladder, must be carefully ascertained. In children, a soft, pedunculated *mucous polypus*, like those common in the nose, may be found. In adults, if the tumour be very soft, flocculent, and pedunculated, it is a *fimbriated papilloma*; if firmer and sessile, but not ulcerated, it is probably either "*fibro-papilloma*" or the *transitional* tumour of Thompson.* *Scirrhus* will be recognised by its hardness; *epithelioma* by its ragged, ulcerated surface and indurated edge and base; *encephaloid* by its rapid growth; all these three alike will be found in elderly adults, and there will probably be glandular enlargement, wasting, and cachexia. Mr. Bryant has found and removed a *dermoid cyst*. The structure of the tumour should be proved by removal of a fragment, and its microscopical examination.

C. The kidney.—For the methods and results of examination of the kidney, the reader must consult works on medicine. In cases of stone in the kidney, a long needle may be thrust into the organ from the loin, in the hope of striking the calculus. In the female the ureters may be catheterised after dilatation

* See "Tumours of the Bladder," by Sir H. Thompson.

of the urethra, and the urine from each kidney collected separately in cases where it is important to determine which kidney is the seat of suppuration, and whether the other organ is functionally sound, e.g. tubercular disease.

Urethral fever.—When, soon after the passage of a catheter, the operation of lithotrity, or some similar local irritation, the patient is seized with a rigor, followed by great heat of skin, and then by a profuse sweat, the temperature rising considerably during the rigor and falling to the normal during the sweat, and the whole illness passing off in a few hours, the illness is *acute urethral fever*. The attack may vary much in intensity; it resembles a paroxysm of ague or a pyæmic rigor, but is characterised by its transient character and its connection with urethral irritation. When the attack is repeated at the interval of a few hours or a few days, it is called *recurrent urethral fever*. When a patient who is using a catheter suffers from chronic pyrexia, with marked asthenia, a dry brown tongue, anorexia, mental stupor, or a low muttering delirium, it is *chronic urethral fever*. The temperature may be but little raised or vary much from time to time. This form of fever is generally met with in the subjects of chronic vesical incompetency with deficient excretion of urea. Some cases of so-called *urethral fever* are septic in origin.

CHAPTER XLIII.

DIAGNOSIS OF DISEASES OF THE HAND.

THE hand is sometimes greatly distorted by the contracting scars of a *burn*; to be distinguished from this is a spontaneous disease of the skin lasting many

years, which gradually draws the fingers together and finally converts the hand into an irregular club-shaped mass, from which the ends of the fingers project; the part, which is covered by a reddish cicatricial skin, is ulcerated or covered with thick yellow crusts; this disease is a form of *lupus*. Another deformity coming on, especially in men of middle or later life, is that characterised by flexion of the fingers at the metacarpophalangeal joint; on attempting to straighten the digit great resistance is met with in the palm, and the palmar fascia is felt to be tense and firmly adherent to the skin, which is marked with transverse creases; this is known as *Dupuytren's contraction*.

Acute inflammation may attack any of the structures of the hand, and is characterised by its usual signs; but the surgeon must endeavour to determine its exact seat. If the pain and swelling be in the *wrist*, the joint should be very gently moved, and then while the wrist joint is fixed by grasping it firmly in the hand, the fingers should be carefully flexed and extended; should it be found that every movement of the wrist joint is very painful, but that when it is held fixed the fingers can be moved without causing pain, it will show that there is *acute inflammation of the wrist joint*. If, however, movement of the fingers be found to be painful when the wrist joint is fixed, it points to *acute teno-synovitis*, and if soft grating or friction be felt during the movement this diagnosis becomes certain. In some cases of joint disease the sheaths of the tendons become involved. In teno-synovitis the pain is more exactly localised than in arthritis and no pain is caused by gentle vertical pressure of the hand up against the fore-arm. The actual tendon affected will be ascertained by the position of the pain and swelling and by noticing what movement it is that causes the acute pain.

The palm.—When a swelling extends up under

the anterior annular ligament to the lower part of the fore-arm it indicates affection of the common palmar synovial sheath. It is impossible to detect fluctuation from small collections of pus through the tense and oedematous palmar fascia and the surgeon must rely for the diagnosis of suppuration upon other signs; of these the best are oedema of the back of the hand, throbbing pain, increased swelling and pyrexia. Abscess is often met with at the clefts of the fingers.

The digits.—Acute inflammation of the digits is usually called *whitlow* or *paronychia*, as it is much most frequent in the last joint. Four forms are to be recognised. Where there are a sharp, stinging, smarting pain, moderate swelling and the quick formation of a flat bleb containing milky pus, it is the most superficial form, a simple *dermatitis*. On removing the raised cuticle the derma is seen bright red and glazed; if the disease spread to the nail that structure is shed. If the end of the finger be greatly swelled with severe aching and throbbing pain, the inflammation is deeper; if, when opened or allowed to burst, a slough of cellular tissue escape, and the sore heal up, the probe not detecting any bare bone, it is *phlegmonous paronychia*; but if, when the swelling bursts or is opened, the probe detect bare bone, and the sinus remain open until a sequestrum is removed, it is *periosteal paronychia*. When a finger or thumb is greatly swelled along its whole length, particularly on the palmar aspect where there is great pain and tenderness, and any movement of the digit causes acute pain, it may be diagnosed as acute inflammation of the sheath of the flexor tendons or *paronychia tendinosa*. When occurring in the thumb or little finger it may spread to the common palmar sheath.

Chronic disease.—Inflammation of the joint-end of a *bone* is detected by finding marked pain on pressing the suspected bone vertically against the one above it,

while disease of the shaft is recognised by the swelling over and fixed to the bone. Occasionally soft grating is felt in a tendinous sheath due to chronic dry *tenosynovitis*; but more often there is effusion, and a fluctuating swelling having the shape and position of the sheath is found; when the fluid contains also small fragments of fibrin flattened out into "melon-seed bodies," the movement of the fluid imparts to the fingers a peculiar thrill-like sensation which is characteristic. These swellings may be met with on the palmar surface of the fingers or in the palm of the hand projecting below the annular ligament and also in the fore-arm above the ligament and extending usually into the thumb or little finger (*palmar ganglion*); occasionally such a swelling is seen over the back of the wrist. A tense ovoid or globular fluctuating swelling on the back of the hand is a *circumscribed ganglion*, which may be connected with one of the extensor tendon sheaths, or an articular synovial membrane.

A chronic inflammatory enlargement of a phalanx is known as *dactylitis*. If the swelling be smooth and uniform, affecting the entire bone, fusiform in shape and not showing any tendency to suppurate, it is probably *syphilitic*, and other signs of this dyscrasia must be sought to support this diagnosis. If the swelling be less regular, affecting alone or chiefly one part of the bone, and showing a tendency to soften or suppurate, it is *strumous*; this disease may lead to great shortening of the finger. An exactly similar disease is met with in the metacarpus.

If one or more of the bones of the hand undergo a steady painless enlargement, forming ovoid or globular swellings, at first firm and unyielding, but later on giving "egg-shell crackling" or becoming slightly elastic, and not yielding to treatment, the disease will be recognised as *enchondroma*. This tumour grows more

often from the interior than from the surface of these bones, is often multiple, and occurs in early life. When it appears as a pedunculated outgrowth from the surface of the bone at the junction of epiphysis and diaphysis it quickly ossifies: A commencing enchondroma cannot be distinguished from periostitis; but the absence of injury as an exciting cause, of pain or tenderness, of the syphilitic or strumous dyscrasia, and also the persistent growth in spite of treatment, will clear up the case; "egg-shell crackling" at once establishes the diagnosis of tumour.

When the joints of the fingers become semi-flexed, adducted, stiff and painful, with creaking and grating in the joints, and nodular thickening around, the disease is *arthritis deformans*. (See page 362.)

The nails may be found very brittle or irregular, with nodular thickening near the free edge; both conditions are the result of *syphilis*; occasionally from syphilis the nail is partially or wholly separated from the matrix, and slowly shed. If the end of the finger be bulbous and reddened, the nail discoloured and out of shape, and beneath it is seen a foul ulcer of the matrix with dark discharge, it is *onychia maligna*; enquiry should be made for evidence of *syphilis* and of *struma*; the disease is often started by injury.

CHAPTER XLIV.

DIAGNOSIS OF DISEASES OF THE FOOT.

Deformities.—When the ankle joint is extended and the heel is raised from the ground in standing, the deformity is known as *talipes equinus*. This deformity varies much in degree, and the patient may

walk on the ball of the toes or on the dorsum of the foot. The position of corns and callosities is a useful indication of the part of the foot upon which the patient walks. When the ankle is flexed, and the patient rests solely on the heel with the toes raised from the ground, it is *talipes calcaneus*. When the foot is rotated in at the transverse tarsal joint so that its inner border is raised and shortened, and is marked by a deep groove under the head of the astragalus, while the outer border is depressed and a corn or callosity is developed over the cuboid bone, it is *talipes varus*. If the foot be rotated out so that its outer border is raised from the ground and the peroneal tendons are tense while the inner border is depressed, it is *talipes valgus*. If the arch of the foot be abnormally deep, the patient resting merely upon the heel and the ball of the toes, it is *talipes cavus*; while when the arch of the foot is lost so that in standing the whole length of the inner border of the foot rests upon the ground, and the head of the astragalus and tubercle of the scaphoid are unduly prominent, it is *talipes planus*, "flat-foot," or "spurious valgus." These forms of talipes are often combined; thus, talipes equinus and varus are often associated, and talipes cavus may be superadded; talipes valgus and calcaneus are often found together, and in extreme cases of talipes planus some amount of equinus may be found.

Talipes is either *congenital* or *acquired*. In the latter the history must be carefully investigated with a view to tracing the deformity to the contraction of cicatrices or injuries dividing nerves (*traumatic*); retention of the foot for a long period in one position (*static*); paralysis of muscles (*paralytic*); and spasm of muscles (*spastic*); in the last case some source of reflex irritation or evidence of *neuromimesis*, such as intermission of the deformity, must be sought.

When the part is cold and livid, both smaller and shorter than its fellow, the skin rough and unhealthy, the talipes is certainly *paralytic*. The surgeon must notice how far and with how much force he can correct the deformity, and what tendons or bands of fascia become tense in so doing.

The great toe is often found pushed out of the straight line, and then a bursa is apt to develop over the head of the metatarsal bone; this is then known as a *bunion*; this bursa may become inflamed and suppurate. If a toe be bent back at the metatarsophalangeal joint, and flexed at the two terminal joints, the deformity is known as *hammer-toe*; this may be accompanied by the development of a bursa over the head of the metatarsal bone in the sole.

The skin of the sole is often the seat of *corns* or *callosities* over the points of greatest pressure. If it be found with the cuticle greatly thickened and fissured in various directions, it is known as *psoriasis*; this is always syphilitic in nature. Irregular *fissures* and *ulcers* may be found between the toes in syphilitic patients, called *rhagades digitorum*. An ulcer may be found at either side of the nail of the great toe, most commonly the outer side, into which the edge of the nail presses; this is a cause of great pain, and is attended with discharge and the growth of a fleshy mass over the nail; it is known as *ingrowing toe-nail*. Ulcers are sometimes met with in the sole of the foot in the centre of what look like corns; they are very chronic in their course, and a probe is found to pass deeply in between the metatarsal bones, or to strike bare bone; they are known as *perforating ulcers*. The surgeon should examine the sensibility of the surrounding skin and the condition of the tendon reflexes, the gait and the pupil, and should enquire for "lightning-like pains in the legs," for these ulcers are often found in connection with local anaesthesia or

locomotor ataxy. Sinuses are also met with in connection with disease of the bones and joints.

Tumours.—*Circumscribed ganglion* may occur on the dorsum of the foot as on the hand. If a firm tumour be found rising up under and displacing the nail of the great toe it is a *subungual exostosis*.

The bones and joints of the foot can easily be individually examined and any swelling or tenderness to pressure or movement can be readily determined, while the probe passed into sinuses may detect either necrosed or carious bone. By pressing each toe separately back towards the heel evidence of inflammation of the bases of the metatarsal and anterior carpal bones can be obtained.

Strumous disease of a tarsal bone is very prone to spread to one of its joint surfaces, and from the large size and complexity of the synovial membranes inflammation quickly spreads from them to several bones. The surgeon will be chiefly interested in ascertaining, by testing the movement of the foot upon the leg, whether the ankle joint is involved; then grasping the heel and instep in one hand and the metatarsus in the other, he will try to get movement between them at the great transverse tarsal joint.

Gout attacks the metatarso-phalangeal joint of the great toe with great frequency. If the great toe be chronically displaced outwards, and the usual prominence of the head of the metatarsal bone be greatly swelled, very painful, tender, reddened and fluctuating, there is a *suppurating bunion*. The abscess may burst and leave a sinus or may spread into the joint; this will be shown by the occurrence of grating and of great pain on moving the phalanx on the metatarsus. The acute inflammation of the bunion will be distinguished from gout by the history of the case and by the absence of the premonitory signs of gout. (See page 359.)

INDEX.

- Abdomen, Injuries of, 146
 Abdominal hernia, 163
 — wall, Abscess of, 161, 455
 — —, Inflammation of, 161
 — —, Tumours of, 455
 Abrasion of œsophagus, 121
 Abscess, Abdominal, 155
 —, Acute, 291
 —, Alveolar, 387, 409, 414
 —, Anal, 475
 —, Chronic, 295
 —, Deep, 312
 —, Iliac, 369
 —, —, Causes of, 529
 — in abdominal walls, 161, 156, 455
 — in bone, 315
 — in brain, 97
 — in breast, 445, 449
 — in lung, 143
 — in sheath of rectus, 455
 — in spermatic cord, 522
 —, Ischio-rectal, 475
 —, Labial, 499
 —, Mammary, 445
 —, Mediastinal, 144
 — of face, 407
 — of groin, 527
 — of scalp, 79
 — of scrotum, 502
 — of tongue, 424, 425
 — opening in urethra, 544
 — over aneurism, 307
 — over artery, 305
 —, Parotid, 408
 —, Pelvic, 529
 —, Perineal, 547
 —, Periosteal, 312
 —, Peripleuritic, 141
 —, Peritoneal, 156
 —, Peri-urethral, 549
 —, Prostatic, 547
 —, Psoas, 369
 —, —, Causes of, 528
 —, Retropharyngeal, 421
 Abscess, Serous, 291
 —, Subaponeurotic of abdominal wall, 456
 —, Submammary, 445
 —, Subpectoral, 140
 —, Subperitoneal, 156
 —, Subphrenic, 157
 —, Supramammary, 443
 —, Synovial, 291
 —, Temporal, 386
 Accumulation of secretion, Diagnosis of, 245
 Accurate observation, Importance of, 6
 Acetabulum, Fissure of, 215
 —, Fracture of, 164, 210, 214, 215
 Acquired hernia, 465
 Acromion, Fracture of, 179
 Acute abscess, 291
 — bursitis, 360
 — congestion, 244
 — epiphysitis, 360
 — gout, 359
 — hydrocele, 508
 — inflammation, 242
 — osteo-myelitis, 48
 — periostitis, 312
 — rheumatism, 359
 — swellings of bone, 311
 — synovitis, 358
 Adenoid vegetations, 416
 Adenoma of breast, 450
 Adhesion of swellings, 252
 Age in diagnosis of ulcers, 333
 Air, Entrance of, into veins, 41, 59
 — passages, Foreign bodies in, 122
 Albuminuria, 542
 Alcoholism, 59
 —, Diagnosis of, from injuries of brain, 94
 Alveolar abscess, 387, 409, 414
 Anæsthesia in gangrene, 342
 — with pain, 25