



REVIEW ARTICLE

ENTHRALLING SIGNS - A KEY TO DIAGNOSIS

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ABSTRACT

Certain signs manifested in head and neck region including oral cavity serve as an imperative clue in diagnosing systemic disorders. The visibility of these signs often enables the physician to make an instant or spot diagnosis. The word diagnosis means —thorough knowledge, it is the greatest task and a key to successful clinical practice. Hence a thorough knowledge regarding various presenting signs and symptoms is of utmost importance to a clinician for precise diagnosis and management of a disease. This present article reviews various fascinating —SIGNS” which in *medical lexicon* refers to an objective physical finding observed by an examiner. Only signs that are visible, palpable, or elicited by direct manipulation, and dermatologic signs associated with oral involvement are included herein.

INTRODUCTION

A symptom is any subjective evidence of disease, while a sign is any objective evidence of disease. Therefore, a symptom is a phenomenon that is experienced by the individual affected by the disease, while a sign is a phenomenon that can be detected by someone other than the individual affected by the disease. (Definition: 'Sign' 2013) The art of interpreting clinical signs was originally called “semiotics” means “to do with signs” was first used in English in 1670 by Henry Stubbes. (Stubbe, 1670) These signs go a long way in establishing a clinical diagnosis or else judge the severity of disease in an individual patient. Google search was done using the terminology cutaneous signs, oral signs, signs manifested by systemic diseases. Some of the most important ones among these are discussed here for the benefit of medical students.

Discussion

1.Nikolsky sign: it is defined as a slight pressure on normal appearing skin or mucosa leads to formation of blister. As the skin shows a weakening relationship and contact between the corneal (horny) and granular layers on all surfaces even in places between the lesions. (Sachdev, 2003)
Ex: pemphigus vulgaris, toxic epidermal necrolysis.

Working Classification:

Category	Example
Oral signs	Nikolsky sign, Asboe hansen sign, Sheklakov sign, Epidermal peeling sign, Lutz sign, coleman’s sign, battle sign, Guerin sign.
Cutaneous signs	Auspitz’s sign, Carpet Tack Sign, Oil Drop Sign, darier’s sign, string of beads sign, forscheimer’s sign, cluster of jewels sign, gottron sign, shawl’s sign, hutchinson’s sign, pastia’s sign, Crowe sign, Dimple sign, borsari’s sign
Radiographic signs	Tear drop sign.
Signs as manifestation of systemic disease	Kernig’s sign, brudzinski sign, von grafe sign, koche’s sign, dalrymple sign, laser sign, russels sign, psoas sign, gorlin sign, dubois sign, Higoumenakis Sign, hoagland’s sign, jellinek’s sign.
Miscellaneous signs	Hoffman’s sign, double ring sign, raccoon sign

2.Asboe hansen sign/ indirect Nikolsky sign/ Nikolsky II sign: it is demonstrated as extension of a blister to adjacent normal unblistered skin when pressure is put on the top of the bulla. (Kaur et al., 1987)
Ex: pemphigus vulgaris, acute bullous lichen planus.

3.Sheklakov sign/ false nikolsky/ marginal sign: This involves pulling the peripheral remnant of a roof of a ruptured blister, thereby extending the erosion on the surrounding normal appearing skin. It is called the "false Nikolskiy" sign because it is a subepidermal cleavage occurring in the perilesional skin. (Grando et al., 2003)

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Ex: bullous pemphigoid, cicatricial pemphigoid, epidermolysis bullosa acquisita. (Grando *et al.*, 2003)

4.Epidermal peeling sign/ pseudo nikolsky sign: refers to the ability to peel off the entire epidermis by lateral pressure (rubbing) only on the erythematous skin areas; underlying mechanism here is the necrosis of epidermal cells and not acantholysis as in true Nikolskiy sign. (Fritsch *et al.*, 1999)
Ex: Stevens-Johnson syndrome, toxic epidermal necrolysis

5.Lutz sign/bulla spread sign: it refers to Slow, careful and unidirectional pressure applied by a finger to the bulla causes peripheral extension of the bulla beyond the marked margin. (Sentamilselvi Ganapati, 2014)
Ex: pemphigus and subepidermal blisters. (Sentamilselvi Ganapati, 2014)

6.Coleman's sign: an effusion of blood into the (tissues of the) floor of the mouth, raising its mucous membrane and producing a characteristic bluish, tense swelling under the tongue. (Frank coleman, 1912)
Ex: fracture of the body of the mandible.

7.Battle sign: bruising over the mastoid process as a result of extravasation of blood along the path of the posterior auricular artery and may suggest underlying brain trauma. (Naumann, Hans Heinz and Jan Helms, 1998)
Ex: fracture of middle cranial fossa of the skull.

8.Guerin sign: Ecchymosis or bruising in the palate in the region of greater palatine vessels. It is thought to be due to damage to the greater palatine vessels as a result of facial trauma causing low level fracture involving maxilla.
Ex: Lefort I fractures. (Karim Kassam and Mahesh Kumar, 2014)

9.Auspitz's sign: refers to the appearance of punctate bleeding spots when psoriasis scales [Buckley's membrane] are scraped off or removed. This happens because there is thinning of the epidermal layer overlying the tips of the dermal papillae and dilatation of subpapillary dermal blood vessels, which bleed readily when the scale is removed. (Holubar, 2003)
Ex: psoriasis.

10.Oil-drop sign: Circular areas of discoloration of nail bed and hyponychium occur as a result of involvement of these structures in psoriasis. As these areas resemble oil drops below the nail, hence the name of oil-drop sign. (Imran Majid, 2006)
Ex: psoriasis of nails

11.Tin-tack sign/carpet tack sign: Removal of an adherent scale from a lesion of DLE reveals the undersurface to be covered with horny plugs [resembling carpet tacks] overlying dilated hair follicular openings. Hyperkeratotic scales extending into the follicular infundibulum creates keratotic spikes when viewed from the scale's undersurface resembling a carpet tack. (Baba *et al.*, 2001)
Ex: Discoid Lupus Erythematosus [DLE].

12.Darier's sign: a change observed after stroking the skin of a person as it becomes swollen, itchy and red. This is a result of compression of mast cells, which are hyperactive in these diseases. These mast cells release inflammatory granules which contain histamine. It is the histamine which is

responsible for the response seen after rubbing the skin. (Amar Surjushe *et al.*, 2007)

Ex: systemic mastocytosis or urticaria pigmentosa

13.String of beads sign - The classic primary lesions of linear IgA dermatosis are clear and/or hemorrhagic round or oval vesicles or bullae on normal, erythematous, or urticarial skin. New vesicles seen developing at the edge of annular or polycyclic lesions, the appearance of which has been described as the string of beads sign. (Billet *et al.*, 2008)
Ex: linear immunoglobulin IgA dermatosis

14.Forscheimer's sign- a fleeting enanthem seen as small, red spots (petechiae) or reddish maculopapular eruption on the soft palate. They precede or accompany the skin rash. (Tait *et al.*, 1996)
Ex: german measles (rubella).

15.Cluster of jewels sign/rosettes sign: It refers to Round or oval blisters filled with clear fluid may arise from normal-looking skin or from red flat or elevated patches. Typically, the blisters are arranged in rings (annular lesions) and they may form a target shape. groups of small blisters may be described as a cluster of jewels. (Kakar *et al.*, 2013)
Ex: linear immunoglobulin IgA dermatosis

16.Gottron's sign: an erythematous and scaly eruption occurring in symmetrical fashion seen on the dorsum of the hand, over the metacarpophalngeal and proximal interphalngeal joints with characteristic skin/cutaneous manifestations and symmetric proximal muscle weakness accompanied by pain. (Prashanth Sunkureddi *et al.*, 2005)
Ex: dermatomyositis.

17.Shawl's sign/V-sign: It is a diffuse, flat, erythematous lesion over the back and shoulders or in a "v" over the posterior neck and back or neck and upper chest, which worsens with UV light. (Prashanth Sunkureddi *et al.*, 2005)
Ex: dermatomyositis.

18.Hutchinson's sign: vesicles on the tip of the nose, or vesicles on the side of the nose, precedes the development of the ophthalmic herpes zoster. This occurs because the nasociliary branch of the trigeminal nerve innervates both the cornea and the lateral dorsum of the nose as well as tip of the nose. (Baran and Kechijian, 1996)
Ex: herpes zoster

19.Pastia's sign/ thompson's sign: a clinical sign in which pink or red lines formed of confluent petechiae are found in skin creases, particularly the crease in the antecubital fossa, the soft inside depression on the inside of the arm. (Rapini *et al.*, 2007)
Ex: scarlet fever

20.Crowe sign: presence of axillary (armpit) freckling in people with neurofibromatosis type I (von Recklinghausen's disease). (Jett and Friedman, 2010)

21.Dimple sign/Fitzpatrick's sign: a dermatological sign with characteristic tethering of the overlying epidermis to the underlying lesion with lateral compression (pinching). (Zaballos *et al.*, 2006)
Ex: dermatofibroma.

22.Borsari's sign: a dermatological sign that consists of pressure by sharp object producing a white line on the skin that quickly turns red. (Patel *et al.*, 2011)

Ex: seen in scarlet fever. (Patel *et al.*, 2011)

23.Tear drop sign: Frontal blow to orbit causes increased intraorbital tension causing fracture of floor of the orbit (weak point) with prolapse of orbital content a Polyedpoid mass can be observed hanging from the floor of the orbit into the maxillary sinus cavity. It is in the shape of a tear drop. (Rhee *et al.*, 2002)

Ex: orbital blow out fracture

24.Kernig's sign: The appearance of resistance or pain during extension of the patient's knees beyond 135 degrees constitutes a positive Kernig's sign. muscular hypertonia of the lower limbs as well as physiological predominance of the extensor muscles of the neck and back over the flexor muscles of the lower limbs is the basis for the genesis of this sign. (Thomas *et al.*, 2002)

Ex: meningitis

25.Brudzinski sign: Reflex flexion of the patient's hips and knees after passive flexion of the neck constitutes a positive Brudzinski sign. It has been proposed that passive flexion of the neck stretches the nerve roots through the inflamed meninges, leading to pain and flexion movements of lower extremities. (Brudzinski, 1909)

Ex: meningitis.

Russel's sign: It refers to the lacerations, abrasions, and callosities that are found on the dorsum of the hand overlying the metacarpophalangeal and interphalangeal joints on the back of the hand due to repeated self induced vomiting over long periods of time. (Trotter and Davies, 1909) This type of scarring is considered one of the physical indicator of a mental illness.

Ex: eating disorders such as bulimia nervosa or anorexia nervosa. (Tylerer and Birminham, 2001)

26.Psoas sign/ obratzsov's sign: an abdominal pain, which results after passively extending the thigh of a patient lying on his side with knees extended, or asking the patient to actively flex his thigh at the hip. It indicates irritation to the iliopsoas group of hip flexors in the abdomen, and consequently indicates that the inflamed appendix is retrocaecal in orientation. (Bickley, Lynn S. Bates, 2007)

27.Gorlin's sign- Ability to touch the tip of the nose with tongue due to an inherited connective tissue disorder.

Ex: Ehler's Danlos Syndrome. (Létourneau *et al.*, 2001)

28.Von grafe sign: the immobility or lagging of the upper eyelid on downward rotation of the eye, indicating exophthalmic goiter. (Ríos *et al.*, 2005)

29.Koches sign: a medical sign that denotes an eye lid phenomenon in hyperthyroidism and basedow's disease. In fixation on a fast upwards or downwards movement there occurs a convulsive retraction of the eyelid. (Rose *et al.*, 2005)

30.Dalrymple sign: a widened palpebral (eyelid) opening or eyelid spasm causing abnormal wideness of the palpebral fissure. As a result of the retraction of upper eyelid, white of the sclera is visible at the upper margin of the cornea in direct outward stare. (Rose *et al.*, 2005)

Ex: thyrotoxicosis.

31.Dubois' sign: it is shortening of the little finger. This feature is seen occasionally as a late stigma of the disease. It may be associated with other stigmata of congenital syphilis such as Hutchinson's triad, perioral rhagades, optic atrophy and broad-based saddleback nose. (Voelpel and Muehlberger, 2011)

Ex: congenital syphilis

Higoumenakis sign. An irregular thickening or enlargement of the sternal end of clavicle, usually unilateral. (Serwin and Chodynicka, 2006)

Ex: pathognomic of Congenital Syphilis.

32.Trousseau's sign: it is defined as the carpopedal spasm that results from ischemia that is induced by Inflating a sphygmomanometer cuff above systolic blood pressure for several minutes. a sign of neuromuscular irritability. (Frank L. Urbano, 1975)

Ex: a sensitive and specific sign of hypocalcemia

33.Chvostek sign: Described as twitching and/or contracture of the facial muscles produced by tapping on the facial nerve at a specific point on the face. This point is located 0.5 to 1 cm below the zygomatic process of the temporal bone, 2 cm anterior to the ear lobe, and on a line with the angle of the mandible. (Frank L. Urbano, 1975)

Ex: hypocalcemia

34.Hoagland's sign: it is the early and transient bilateral upper lid edema. The sign is usually present only for the first few days of the clinical presentation of the illness. (Hoagland, 1975)

Ex:infectious mononucleosis

Jellinek's sign: refers to eyelid pigmentation occasionally. The hyperpigmentation is secondary to increased corticotrophin levels and may also occur on other areas of the face but usually spares the buccal mucosa. (Frieman and Kalia, 2006)

Ex: hyperthyroidism.

Hoffman's sign/tinel's sign/patel's sign: a tingling sensation triggered by a mechanical stimulus in the distal part of an injured nerve. This sensation radiates peripherally, from the point where it is triggered to the cutaneous distribution of the nerve. (Trotter and Davies, 1909)

Ex: distal nerve regeneration

Raccoon sign: It is a useful feature indicative of. The condition is seen as periorbital ecchymosis from subconjunctival hemorrhage, which occurs secondary to blood dissecting from the disrupted skull cortex to the soft tissue of the periorbital region. (Samii and Tatagiba, 2002)

Ex: basilar skull fracture

35.Double ring sign/Halo sign: a classic image in medicine and was taught as a method for determining whether bloody discharge from the ears or nose contained cerebrospinal fluid (CSF).

Ex: basal skull fracture. (Pretto Flores *et al.*, 2000)

Conclusion

A multitude of signs exist in medical literature and an exhaustive list is difficult to elaborate. Many signs are based on the morphology or physical characteristics of the lesions.

The eponymous nature of some signs highlights the rich chronicle of oral lesions associated with dermatological lesions. These signs help in narrowing the differential diagnosis. It is crucial for a clinician to take into account that these signs are rarely pathognomonic and each is associated with inherent sensitivity and specificity. Hence these signs are to be utilized as adjunctive clinical guide for successful practice.

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