Idiopathic digital clubbing "An incidental clinical finding"

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Abstracts: Clubbing of the nails is a bulbous uniform thickening of the soft tissues of the terminal phalanx of a digit with subsequent loss of the normal angle between the nail and nailbed. It may be primary (hereditary or idiopathic) or secondary to disorders of the multiple organ systems. A male, aged 45 years, detected to be a case of idiopathic digital clubbing, noticed by the individual during early adolescence, is presented herewith.

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Key Words: Digital clubbing, Hippocratic finger, drum stick finger, idiopathic.

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Introduction: Primary or idiopathic clubbing is a rare entity and few cases have been reported in medical literature in India and outside. In routine practice, when clubbed fingers are observed during clinical examination, the clinician thinks of the possibility of an underlying chronic disease such as cardio pulmonary and other systemic disorders. The part of the iceberg may be detected, especially those who report at the tertiary care centre with the facilities for comprehensive check up and availability of the various specialists who work up the case to arrive at a final diagnosis. The undetected cases may be much more than the cases actually detected and reported.

Case Report: A 45 years old male individual, resident of Bareilly and shopkeeper by occupation, reported to the department of Pulmonary Medicine OPD with complaints of marked swelling of the terminal digits of both upper extremities since early adolescence, which increased in size with age.

Figure 1

The digital swelling was painless, except for some discomfort during winter months, and was gradually progressive. There was no history of any chest symptom, palpitation, syncope, or any gastro intestinal complaint. He was a non smoker, non tobacco user and non alcoholic. Past history did not reveal any specific illness involving cardio vascular, pulmonary, gastro intestinal or any other body system. There was no family history of clubbing. On examination, his pulse rate was 80/ min, respiratory rate 16/ min, and blood pressure 124/ 74mm of Hg. Pallor, cyanosis, icterus, edema, venous engorgement or lymphadenopathy was not present. Clubbing was present in all the fingers with drumstick appearance. The toes on both the lower extremities did not show any clubbing. The wrist, elbow, ankle or knee joints were normal. The systemic examination was normal.

On investigation: hematological and biochemical parameters were within normal limits. Chest radiograph, spirometry, electrocardiogram and 2 D echocardiography did not show any abnormality. High resolution computerized tomography of thorax showed no evidence of any diffuse or localized parenchymal disease (Figure3).

The radiograph of wrist and hands did not show evidence of periostitis or new bone formation. Thyroid and liver function tests were normal. RA factor test was negative. Since, no cause of clubbing could be detected,

a diagnosis of idiopathic digital clubbing was made.

Figure 2

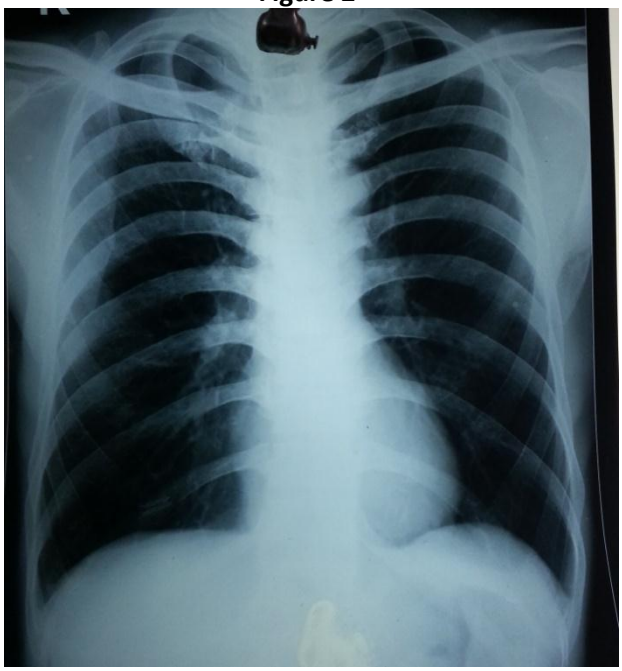
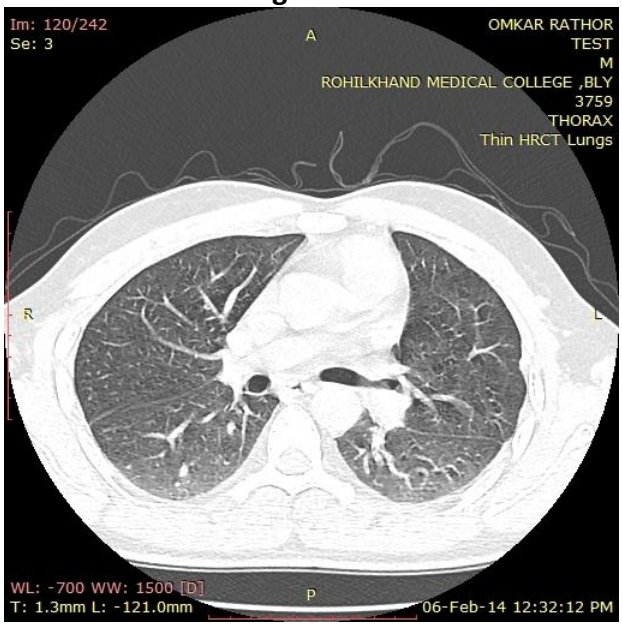


Figure 3:



The patient has been under follow up for about 1½ years, and there are no fresh complaints or clinical findings to point towards a cause for the clubbing.

Discussion: Clubbing, also known as Hippocrates fingers, clubbed fingers, watch glass nails or drum stick fingers is an enlargement of transverse and longitudinal curvature of the nails with hypertrophy of soft tissues. The etiology is undebatable but may be related to increased vascularity of fingers. Clubbing may be unilateral or bilateral, may involve upper or lower extremities or both and may affect a single digit. [1,2]

The exact prevalence of the occurrence of idiopathic digital clubbing is not known. In a Belgian study (2008), [3] the clubbing was observed in 1% of all patients hospitalized in the department of internal medicine. 40% of them had underlying diseases, while 60% had no underlying medical problems and remained well over subsequent years.

Primary or idiopathic clubbing, though rare, has been reported in medical literature,[1,4,5] but extent of idiopathic digital clubbing in India and other parts of the world is lacking. Only, the sporadic cases have been reported by BarraudKlenovsek MM et al (1997),[6]Peerbhoy MS et al (2006), [7] Kripasindhu G (2012) [8] and others.The male preponderance has been observed in digital clubbing including idiopathic clubbing. [9] In the above cases, all except one[6] reported cases are male. The individuals being mentioned in this case report is a 45 years male patient. The age group of these reported cases is, mostly young age group, between 20 to 45 years.

Clubbing is associated with a wide variety of thoracic and extra thoracic disorders, and may either be primary (hereditary or idiopathic) or secondary in nature. Hereditary clubbing is observed in two forms, including idiopathic hereditary clubbing and associated with pachydermoperiostosis. Primary hypertrophic osteoarthropathy (PHO), a rare hereditary disorder with digital clubbing, subperiosteal new bone formation, and arthropathy, has been linked mutation in 15 –

hydroxyprostaglandin dehydrogenase(15 PGDH) encoding gene HPGD, which causes PHO.[10] The acquired form is the most common cause of clubbing with thoracic (accounting for approaximately 80% of cases) and extra thoracic (gastro intestinal, hepato biliary, endocrinal, hematological, occupational, poisoning, and miscellaneous) organ disorders.[1,8]

The idiopathic clubbing may be noticed by the clinician on routine clinical examination for other non specific presenting symptoms. The people in contact usually notice digital swelling and the individual may consult the doctor for cosmetic reasons or for some remedial measures. Anatomic consideration, such as classic measurement of Lovibond angle or more recently derived index of nail curvature by Goyal et al, [2] usually can be observed on simple physical examination. Lovibond angle, becomes greater than 180^0. The several grades of clubbing can be observed. Grade 1: fluctuation and softening of nail bed, Grade 2: loss of normal 15^0 angle between the nail and the cuticle, Grade 3: accentuated convexity of the nail, Grade 4: clubbed appearance of finger tip, Grade 5: display the nail and adjacent skin with a smooth,shiny or glossy look with longitudinal striations.[1]

The comprehensive work up of the asymptomatic individuals with digital clubbing should be planned. A thorough clinical examination and investigations such as X Ray, CT, Ultrasound, Bronchoscopy,thorascopy, endoscopy, ECG, 2 D Echocardiography, routine blood, GBP, LFT, Thyroid function tests, blood sugar, HBV & HCV test, HIV test, arterial blood gases, and other related investigations should be carried out. Idiopathic digital clubbing cases need to be followed up for at least ten years. The individual has to be educated for possible future occurrence of any abnormality in the body. Regular surveillance of the cases of idiopathic digital clubbing is recommended.

No specific treatment for clubbing is available. Symptomatic treatment may be needed sometimes. The management of underlying pathological conditions is required. Once substantial chronic tissue changes,including increased collagen deposition have occurred, the reversal is unlikely. Since, clubbing is a clinical finding in idiopathic clubbing cases, no direct complications occur, except for cosmetic reasons.

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