Pakistan Journal of Neurological Sciences (PJNS)

Volume 11 | Issue 1 Article 7

1-2016

Neurocutanoussarcoidosis: a rare entity

Muslim Ali Lakhiar
Liquate university of medical and health sciences LUMHS

Manzoor Lakhiar
Liquate university of medical and health sciences LUMHS

Abdul Hafeez Bughio
Liaquat university of medical and health sciences jamshoro.

NEUROCUTANOUSSARCOIDOSIS: A RARE ENTITY

Dr. Muslim Ali Lakhiar [1], Dr. ManzoorLakhiar,Dr. Abdul Hafeez Bughio[3]
Department of Neurology LUMHS, Jamshoro

Correspondence to: *Dr.Muslim Ali Lakhiar1 Correspondence: Dr. Muslim Ali Lakhiar Senior Registrar Neurology LUMHS Jamshoro Email: drmuslimali@yahoo.com*
Date of Submission: *October 19, 2015* ***Date of Revision:*** *December 10, 2015,* ***Date of Acceptance:*** *December 22, 2015*

ABSRACT

Neurosarcoidosis is a granulomatous disorder considered to be a great imitator. We report a case of young lady who presented with gradual onset flexed posturing of fingers of left hand for four years, followed by similar pattern of weakness involving the right hand for three years along with slipping of slippers for one year. Neurologic examination showed distal wasting & weakness in upper limbs with normal jerks and sensory impairment in gloves and stocking distribution. On skin examination there were hypopigmented macules over face, neck and back. Electro diagnostic studies showed sensory motor axonal polyneuropathy, while skin biopsy reported as naked noncaseating granulomas suggestive of sarcoidosis. No such case reported yet in Pakistan with sarcoidperipheral polyneuropathy and rare hypopigmented form of Sarcoidosis without pulmonary involvement.

Key words: Epilepsy, Antiepileptic drugs, Non-compliance factors, Pakistan

Introduction:

Sarcoidosis is a systemic granulomatous disease of unknown origin, characterized by the presence of non-caseating granulomas in affected organs. Sarcoidosisis a Greek word, “Sarco” meaning “flesh”, “eidos” meaning “like” and “osis” meaning “condition” flesh-like condition [1]. Sarcoidosis is more common in African Americans & rare in Asia, being almost unknown in Chinese and Southeast Asians. Sarcoidosis can occur at any age, in persons of either gender, and in all races. Sarcoidosis commonly involves lungs, lymphatic system, eyes, skin, liver, spleen, salivary glands, heart, nervous system, muscles and bones. [2].The underlying cause of sarcoidosis remains unknown [3]. The frequency of neurologic involvement is generally 5% of all cases of sarcoid, [4], but in some series it was noted to vary from 5-16%. It is estimated that less than 1% of patients have isolated central nervous system involvement without systemic evidence of disease [5]. Cutaneous involvement occurs in 10-35% of patients of sarcoidosis with only 2% having exclusive involvement of the skin [6].Cutaneous Sarcoidosis can manifest with specific and non-specific lesions. Maculopapular eruptions are the most common type of granulomatous cutaneous involvement while hypopigmented form is very rare in Sarcoidosis.

Case Report

A 19 years old female, right handed, student with no known co morbid, admitted in Neurology ward through outdoor patient department with progressive weakness first in left hand for 4 years followed by right hand for 1year. Initially she noticed that her little finger of left hand gradually started in flexed position. Over a period of three years rest of her fingers and thumb also acquired a flexed posture, so that patient had mild difficulty to carry out her routine activities from left hand. No associated muscle pain, joint pain,numbness, neck pain, skin colour changes or difficulty in raising her arms above shoulder.Three years later she also developed weakness of right hand in similar pattern with flexed posturing of little finger.During that period she also noticed slipping of slippers from feet but no associated numbness, paresthesia, difficulty in standing from sitting position backache or trauma. On systemic inquiry no history of headache, fits, blurring of vision, vertigo, tinnitus, ear discharge, difficulty in swallowing, nasal regurgitation, trauma, neck pain, breathlessness, chest pain, cough, rash, fever, joint pain, abdominal pain, diarrhea,constipation,retention of urine, bladder or bowel incontinence, weight gain or weight loss or toxin exposure. No such complain in family &no history of traveling abroad. On general physical examination she was young female of average height and built, with flexed posturing of fingers& wasting (Figure 01). Her blood pressure was 110/70 mmHg,pulse 80b/m,temp 98F&respiratory rate 18 breaths/min.On Neurological examination her higher mental functions and cranial nerves were intact with normal bilateral fundoscopy.Motor system examination showed wasting of small muscles of hands bilaterally more on left side with normal bulkproximally in upper limb as well as in both lower limbs, nofasciculation, tone were decreased only at wrist bilaterally & normal in upper limbs &lower limbs,power was normal in upper & lower limbs except at wrist 4/5 bilaterally with mild to moderate weakness in hand grip. Normal deep

tendon reflexes with down going planter's bilaterally. Sensory system showed impaired pin prick sensation in glove &stocking pattern but position &vibration sense impaired at toes bilaterally only & normal in upper limbs. On skin examination well defined hypopigmentedmaculeswere noted involving face, neck and upper back, around 5-8mm in size, round to oval,with clear margins and no sensory loss noted overhypopigmentedmacules. Peripheral nerves were not palpable, while musculoskeletal system, respiratory system, cardiovascular & abdomen examination were unremarkable. Her laboratory investigations showed CBC withHG 11.00Gm/dl(11-16), HCT 40.0 %(37-50) MCV 80.30 fl(76-96) with normal TLC & platelet count. ESR was 42mm IstHr, CRP 0.1mg/dl, blood urea, creatinine, RBS, HbsAg, Anti HCV, LFTs, electrolytes, APPT, PT-INR were normal. Her electro-diagnostic studies were consistent with sensory-motor axonal polyneuropathy.For further workup of sensory motor axonal polyneuropathy we did cerebrospinal fluid analysis which reported normal with negative Gram Stain & Z.N Stain for Acid fast bacilli. ANA was nonreactive, vitamin B12level, Syphilis serology (VDRL & RPR), HIV & thyroid profile was normal.Sural nerve biopsy revealed markedly fibrosed nerve fibers along with areas having inflammatory infiltrate comprising of lymphocytes and histiocytes mostly concentrated around nerves. Surrounding tissue shows mild chronic inflammation and fibrosis. No evidence of vasculitis is seen. Meanwhile opinion from dermatology department was taken for hypopigmented lesions over skin they excluded leprosy & suggested for skin biopsy. Leprosy was also excluded by Marie Adelaide Leprosy Centre (MALC) Karachi. Skin biopsy was done which was suggestive of Sarcoidosis, no evidence of leprosy & skin smear negative for AFB using Fite stain. Patient was further investigated for systemic involvementof Sarcoidosis. Serum calcium was 10mg% (8.1-10.4), Serum angiotensin converting enzyme (ACE) level 57.0U/L (upto 52U/L), and Total protein A/G ratio normal. Mauntox test was normal. ECG and echocardiography was unremarkable. Urine detailed report, 24 hr urine Creatine Clearance & urinary calcium level were normal. Ultrasound abdomen & pelvis was normal. Her chest x-ray showed no evidence of hilaradenopathy or prominent pulmonary markings. Pulmonary function tests (PFT) were unremarkable &CT chest with contrastdone to see the primary site of sarcoidosis which reported normal as well. Serum Prolactin, Follicular stimulating hormone (FSH) &Luteinizing hormone (LH) was within normal limits. To see the CNS involvement MRI Brain with contrast done (Figure 02) reported normal. Hence the diagnosis of NeurocutanousSarcoidosis was made based on skin biopsy and excluding the other causes of granulomatous lesions &sensory motor axonal polyneuropathy. Patient was kept on steroids prednisone 1mg/kg/day in divided dose with omeprazole and vitamin D support as well advised for physiotherapy. Family was counseled regarding nature and prognosis for disease and discharged to follow up in neurology OPD.

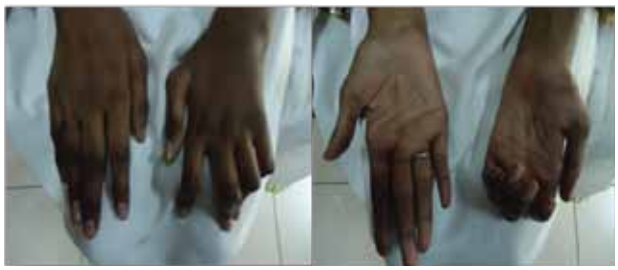

Figure 01: showing wasting of small muscles of hands more on left side

Figure 02: MRI Brain plain(T2-weighted axial image) contrast (Sagittal view) normal

Discussion:

Sarcoidosis is an idiopathic, chronic, multisystemic, granulomatous disease. It involves many organ systems and has many different clinical presentations depending upon involvement of organ.Most commonly affect lungs & lymphatic system and rarely nervous system & skin. It can affect both Central nervous system and peripheral nervous system. Neurologic affliction in Sarcoidosis has been described in 5% of patients with Sarcoidosis [3]. Neurosarcoidosis can present with Cranial neuropathy, meningeal based disease, Hypothalamic-pituitary axis dysfunction , Seizures, Encephalopathy/psychiatric symptomatology , Spinal cord disease , Peripheral neuropathy, Mononeuropathies, Mononeurits multiplex, Sensory motor axonal polyneuropathy, autonomic neuropathy, Small fiber neuropathy. Cranial neuropathies constitute the most common neurologic manifestation of Sarcoidosis. It can affect any cranial nerve but facial nerve is most common one. Peripheral neuropathy is a very rare clinical presentation of neurosarcoidosis as our case presented with Sensory-motor axonal polyneuropthy. Cutaneous Sarcoidosis occurs in up to one third of patients with systemic Sarcoidosis. Lesions of cutaneous Sarcoidosis can exhibit with different morphologic features, So Sarcoidosis considered to be a "great imitator" in dermatology. Skin

lesions includes Erythema Nodosum, Maculopapular Eruptions ,Papular Eruptions ,Plaque Eruptions ,Lupus Pernio ,Atrophic Sarcoidosisand rare morphologies such as alopecia, ulcers, hypopigmented patches, and ichthyosis, VerrucousSarcoidosisIchthyosiformSarcoidosis,HypopigmentedSarcoid. Among them Erythema Nodosum is most common nonspecific lesion and papules are most common specific lesions. Indeed hypopigmented form of cutaneous Sarcoidosis is very rare presentation as in our case. Identification of cutaneous lesions is very important because they provide a visible clue to the diagnosis and are an easily accessible source of tissue for histological examination. Diagnosis of neurosarcoidosisis often difficult in absence of systemic disease specially cutaneous or pulmonary involvement. [7].Neither tuberculin skin test nor ACE level is definitive in establishing the diagnosis.Definitive diagnosis of neurosarcoidosis can be challenging [8].Corticosteroids remain the mainstay of treatment and patient may improve rapidly. However for long-term treatment an alternative option is immuno suppressive therapywhich includes azathioprine, methotrexate, cyclophosphamide, infliximab and hydroxychloroquine. When literature was reviewed uptill now only 3 cases of isolated neurosarcoidosis were reported. Among them Rohana Naqi et al[9]reported acase of young lady with multiple ring enhancing cerebellar lesions and Tahir M.et al[10] presented Yemeni origin lady with primary sarcoid granuloma ofoptic chiasm both cases involved CNS, whileAhmedani Y at al [11]reported Sarcoidosis presenting as Proximal Myopathy without systemic involvement. Our case is different from these cases in view of Sarcoidosis presenting as Peripheral polyneuropathy. First ever case of Sarcoidosis polyneuropathy from Pakistan as well as rare cutaneous Hypopigmented form of Sarcoidosis without pulmonary or other organ involvement.

Conclusion:

Though neurocutaneousSarcoidosis is very rare but should be considered in differential diagnosis of various neulogical disorders & cutaneous lesions because recognition of cutaneous sarcoid lesions not only provides an important visible clue to the diagnosis but an accessible source of tissue for histopathological examination.

REFERENCES:

1. English JC, Patel PJ, Greer KE. Sarcoidosis. J Am AcadDermatol2001; 44: 725-43.
2. Shah R, Roberson GH, Cure JK. Correlation of MR imaging findings and clinical manifestations in Neurosarcoidosis. AJNR Am J Neuroradiol 2009; 30: 953-61.
3. Newman LS, Rose CS, Maier LA. Sarcoidosis. N Engl J Med. 1997;336:1224–34.
4. Motta M, Alongi F, Bolognesi A, Cozzarini C, DiMuzio N, Fazio F. Remission of refractory neurosarcoidosis treated with brain radiotherapy: a case report and a literature review. Neurologist. 2008 Mar. 14(2):120-.
5. Smith JK, Matheus MG, Castillo M. Imaging manifestations of Neurosarcoidosis. AJR Am J Roentgenol 2004; 182: 289-95.
6. Samtsov AV. Cutaneous sarcoidosis. Int J Dermatol. 1992;31:385–91.
7. Bradly WG, Daroff RB, Fenichel GM, JankovicJ.Neurology in Clinical Practice Volume II: The Neurological Disorders 5th edition 2008.
8. Terushkin V, Stern BJ, Judson MA, Hagiwara M, Pramanik B, et al. (2010) Neurosarcoidosis: presentations and management. Neurologist.2010; 16: 2-15.
9. Rohana Naqi, Muhammad Azeemuddin. Neurosarcoidosis.J Pak Med Assoc Mar - Mar 2012;62(3):293-4.
10. Tahir, M., Shaikh, F., Siddiqui, A. (2010). Primary chiasmalsarcoidgranuloma masquerading as glioma of the optic chiasm. Journal of
11. The College of Physicians and Surgeons Pakistan.2010; 20(10):695-6.
12. Ahmedani Y, Qadir F, Khalid G. Sarcoidosis presenting as Proximal Myopathy.J Pak Med Assoc Sep – Sep. 2003;53(9):440-1.

Conflict of interest: Author declares no conflict of interest.
Funding disclosure: Nil

Author's contribution:

Dr.Muslim Ali Lakhiar: Study concept and design, protocol writing, data collection, data analysis, manuscript writing, manuscript review
Dr. ManzoorLakhiar: Study concept and design, data analysis, manuscript writing, manuscript review
Dr. Abdul Hafeez Bughio: data collection, data analysis, manuscript writing, manuscript review