A Case Report : A 37 Years-old women with Takayasu Arteritis

Abstract

Background: A rarity of form of vasculitis, also known as TAK, induces inflammation in the walls of the major arteries in the body: the aorta and its main branches. The disease results from a body attack and inflammation of the walls of the arteries caused by the body's own immune system.

Case presentation: A 37-years-old women had complaints of fever, giddiness, weakness of right upper limb and lower limb since1 day. After undergoing whole blood count, liver function examination, renal and MRI function checks, CT scan, angiography, etc. was studied. She was diagnosed with takayasu arteritis. She had past medical history of neck pain and numbness since January 2020. For these complaints her family members referred her in private hospital. There is no significant history of surgery in present, lower segment caesarean section and piles operation was done previously. Physical findings were normal except **t**he Glasgow Coma Scale score was 11 that is, patient was semi-conscious, In General appearance patient activity was dull and weak due disease condition, Patient's all routine investigations were normal except few like Total WBC count was increased (21,500cell /cm) due to increased infection, Granulocytes were increased that is 75 % due to infection and autoimmune disease, ESR was increased that is52mm/h. Angiography showed block in the right common carotid artery, MRI- showed Acute infract in left fronto temporo parietal region involving insular par ventricular white matter, absent flow in distal M1 segment of MCA.

Conclusion: The most frequently involved arteries and the angiographic trends in this Takayasu Arteritis study were subclavian arteries and carotid arteries. The difference between angiographic characteristics may lead to clinical differences. Operations and surgery should be carried out at various points in the course of the disease.

Keywords: Takayasu's arteritis, Magnetic resonance imaging, Computed tomography Scan

Introduction

A uncommon type of vasculitis involving inflammation in the walls of the major arteries in the body, the aorta and its main branches, is Takayasu's arteritis, also called TAK. The disease is caused by an attack from the body's immune system, which causes inflammation of the artery walls. Inflammation can reduce blood flow to many parts of the body and reduce arteries.

Arteritis of Takayasu can lead to a low pulse or pulse failure of arms, legs and organs. Therefore, people called the disease 'pulse less disease.' There might be patients with TAK who have no symptoms, and this disease is so rare as to be unable to identify it by physicians. Thus, it's sometimes postponed for many years, often.[1]

Case presentation

A 37-years-old women had complaints of fever, giddiness, weakness of right upper limb and lower limb since one day. Otherwise there was no history of cough, cold or no any history of chest pain, breathlessness and no history found of syncope and seizure.After investigations have taken place such as full blood count, liver function test, kidney function test, MRI, CT (computed tomography), scan, angiography and so on.She was diagnosed with Takayasu arteritis ,She had past medical history of neck pain and numbness since January 2020. For these complaints her family members referred her in private hospital.

Clinical findings:

Patient's all routine investigations were normal except few like Total WBC count increased that is 21,500cell /cumm due to Increased -Infection can cause number of WBC increased in blood(enterococci and E-coli was present),Granulocytes is increased that is 75 % due to Increased- to give response to infection and autoimmune disease, ESR is increased that is52mm/h Increased- Due to inflammation. In Culture Report Peripheral smear Neutrophilic leucocytosis present, and in Urine microscopy E-coli and Enterococci bacteria was present.

Physical examination:

Physical examination is normal except few things like the Glasgow coma scale score was 11; that is patient was semi-conscious, In General appearance patient activity was dull and weak due disease condition, Patient mental status is normal they oriented to time, place, person, and attainable, but slight behavior changes occur due to the hospitalization and diagnostic procedure. Patient height is 162cm, weight 55 kg, BMI 20.99kg/m^2, a Patient vital sign is normal. That is

temperature 98.6^{0}F, pulse: 82 beats/minute, respiration: 22 breath/minute, blood pressure 122/84mmhg, Face was Asymmetry of features due to right side facial paralysis, In the eye examination, both eyebrows normal, both eyelashes are symmetrical, the pupil is reacting to light, visual acuity is normal. Right side of lips drooling is present due Due to facial hemiparesis of right side mouth, Patient posture was Slightly slanting towards right side ,difficulty in extension and flexion upper limbs, Numbness present in right hand due paralysis, In the chest, symmetrical no any lesion is present, no axillary lymph node enlargement, S1, and S2 sound are heard pleural effusion absent, In the abdomen, no scarring present on abdomen, spleen or liver, not enlargement, bowel sound present, no fluid collection present.

Diagnostic assessment

Following diagnostic test was done in our patient and on the besis of test result doctors diagnosed takayasu arteritis

Angiography: showing block in the right common carotid artery

MRI-Acute infract in left fronto temporo parietal region involving insular para ventricular white matter absent flow in distal M1 segment of MCA.

CT Brain - Acute to Subacute infarct in left fronto-temporo –parietal region –left MCA territory.

CT Aortogram- Revealed giant cell arteritis (takayasu arteritis)….mild wall thickening noted involving the arch of aorta with extension of the wall thickening along the bilateral subclavian artery common carotid artery, and right ICA. The lumen is significantly narrowed.

Triplex color Doppler study-of bilateral carotid showed complete occlusion of right common carotid artery(approximately 90-95%).

Color Doppler of left upper limb-showed significant narrowing of all the arteritis of left upper limb

Left upper limb angiogram - showed giant cell arteritis non visualization of branches of Arch of aorta with multiple collaterals.(Arch of aorta shows normal contrast opacification. there is non-visualization of right brachiocephalic, bilateral subclavian from its origin and left common carotid with multiple collateral noted).

MEDICAL MANAGEMENT:

Following medical management we done in our patient

Tab. Prednisolone , 40 mg, OD, Oral, Tab. Prednisolone , 40 mg, OD, Oral, Tab. Pantaprazole , 40mg, BD, Oral, Tab. Ecosprin, 150 mg , OD, Oral, Tab. Clopitab, 75mg, OD, Oral, Tab. Diamox , 250 mg, TDS , Oral, Tab. Dexamethasone , 4mg, TDS , Oral, Tab. Perinorm , 10mg, TDS, Oral, Inj. Manitol , 100 ml, TDS, IV, Tab. Levetiracetam , 6 mg , BD, Syp. Duphalac , 20ml, BD

SURGICAL MANAGEMENT :

In our patient, she and her family member not ready for surgical intervention, so in our not done any surgery**.**

NURSING MANAGEMENT:

- First of all make nursing assessment with the help of observation
- Check the consciousness, weakness, speech, vital sign, the reaction of a pupil, size of a pupil.
- Make the client lie comfortably on the bed.
- Elevate head end of the bed to 30 degree and railing bed is provided.
- Monitor BP.

NURSING DIAGNOSIS:

1. Impaired physical mobility related to hemiparesis
2. Acute pain related to immobilization
3. Deficit self-care related to weakness in right side
4. Impaired verbal communication related to infarct in left front temporal parietal region
5. Risk for impaired skin integrity related to hemiparesis.

1) Impaired physical mobility related to hemiparesis

Interventions

1. Apart from the flexion of the affected ends, apply the splint at night.

2. Prevent the adduction by a pillow in the axilla of the affected shoulder.

3. Elevate the arm to avoid fibrosis and edema.

4. Change position every two hours; placed the patient in a prone position several times a day for 15 to 30 minutes.

2) Acute pain related to immobilization
Interventions

1. Use proper patient movement and positioning.
2. Various motion exercises are advantageous, so avoid exhaustive arm movements.
3. Raise hand and arm to avoid hand-dependent
4. Edema; administration of analgesic agents as directed.

3) Deficient self-care related to weakness in right side

Interventions

1. Encourage the patient to focus on personal hygiene as long as they are available; choose appropriate one-hand self-care activities.
2. Help patients to develop concrete objectives; add a new challenge every day.
3. Initially advise the patient to conduct all unchanged self-care tasks.
4. Ensure that the patient does not ignore the side affected; assist devices given as Stated.

4) Impaired verbal communication related to infarct in left front temporal parietal region

Interventions

1. Ensure good emotional support and empathy to prevent patient sentences.
2. Patient attention, speak slowly and give one instruction at a time while talking to the patient; allow the patient time for processing.
3. Discuss with aphasic patients during social interaction treatment events.

Nutritional Management for TakayasuArthritis

Patient having Poor appetite, Weight loss and Fatigue so we instruct the patient following things

- Try to eat every 2 hours, High calories, High protein, Physical activities, Non-caffeinated fluids

- Take every 2 hours to eat
- Even just a few bites, Weight loss, Prevention of diabetes mellitus ,Increase gastrointestinal activities

High calories, High protein

- Lentils, legumes, nuts, green peas, quinoa, soy milk, green leafy vegetables, all types of fruits, fish, milk, poultry, chana, paneer, sprout, yogurt, whole grain.

Physical activities

- Increase appetite
- Increase metabolism

We advice the patient about Non-caffeinated beverages

- Caffeinated beverages were grouped into general categories:

✓ Coffee, tea, carbonated soft drinks

- Non-caffeinated beverages:

✓ Juices, sports drinks, smoothies

✓ 8-10 glasses per day

Discussion:

A rarity disease with numerous unspecific clinical symptoms can making it difficult to diagnose in their early stages. Takayasu arteritis is a disease of the random type. It is important to look at the effects of delayed diagnosis in those women with a history of weakness and exhaustion and malaise. In present case also patient having similar complaint so we need early prevention, proper diagnostic procedure and good surgical intervention.A 104 patient research Italian Via an ad hoc form, data have been obtained. The study included demographic data, clinical history, vascular observations, treatment, risk factors and comorbidities. Outcome: Data were obtained in 104 patients. Diagnosis delays of 15.5 months (range from 0-325 months) were median. At starting <15 years age had a higher probability of delay in diagnosis while a lower probability of higher erythrocyte sedimentation rate. Most patients had unspecific signs and symptoms that suggested an early phase of inflammatory disease. Stenosis, the most prevalent lesion, was present in 93 per cent of patients among vascular involvement.This also concluded that delayed diagnosis is a key problem for patients with TA, similar to many rare diseases. Present care is being questioned about the long-term efficacy of vascular lesions and their development.[5]Studies on global burden of diseases[6-8]and diseases of different arteries[9-10] were reviewed[11-14].

Conclusion:

The most frequently involved arteries and the angiographic trends in this takayasu arteritisstudy were subclavian arteries and carotid arteries. The difference between angiographic characteristics

may lead to clinical differences. Operations and surgery should be carried out at various points in the course of the disease.

Informed Consent

Patient informed consent was taken and signed by the Patient before writing a case report.

Ethical approval

IEC-DMIMS Wardha.

REFFERANCE

1. Takayasu's Arteritis [Internet]. [cited 2021 Jan 5]. Available from: https://www.rheumatology.org/I-Am-A/Patient-Caregiver/Diseases-Conditions/Takayasus-Arteritis

2. Hypertension: Symptoms & Types [Internet]. [cited 2021 Jan 5]. Available from: https://www.webmd.com/hypertension-high-blood-pressure/guide/hypertension-symptoms-types

3. Saturated Fats: Should I Eat Them or Avoid Them? [Internet]. [cited 2021 Jan 5]. Available from: https://www.webmd.com/cholesterol-management/features/truth-about-saturated-fats

4. Jr, B. F. P. ., & Federico R. Tewes. (2021). What attorneys should understand about Medicare set-aside allocations: How Medicare Set-Aside Allocation Is Going to Be Used to Accelerate Settlement Claims in Catastrophic Personal Injury Cases. *Clinical Medicine and Medical Research*, *2*(1), 61-64. https://doi.org/10.52845/CMMR /2021v1i1a1

5. Cholesterol Management Center - WebMD [Internet]. [cited 2021 Jan 5]. Available from: https://www.webmd.com/cholesterol-management/default.htm

6. New Insights on the Pathogenesis of Takayasu Arteritis: Revisiting the Microbial Theory [Internet]. [cited 2021 Jan 5]. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6160975/

7. Daniel, V. ., & Daniel, K. (2020). Diabetic neuropathy: new perspectives on early diagnosis and treatments. *Journal of Current Diabetes Reports*, *1*(1), 12–14. https://doi.org/10.52845/JCDR/2020v1i1a3

8. Abbafati, C., D.B. Machado, B. Cislaghi, O.M. Salman, M. Karanikolos, M. McKee, K.M. Abbas, et al. "Five Insights from the Global Burden of Disease Study 2019." The Lancet 396, no. 10258 (2020): 1135–59. https://doi.org/10.1016/S0140-6736(20)31404-5.

9. James, S.L., C.D. Castle, Z.V. Dingels, J.T. Fox, E.B. Hamilton, Z. Liu, N.L.S. Roberts, et al. "Global Injury Morbidity and Mortality from 1990 to 2017: Results from the Global Burden of Disease Study 2017." Injury Prevention 26, no. 1 (2020): I96–114. https://doi.org/10.1136/injuryprev-2019-043494.

10. Daniel, V., & Daniel, K. (2020). Perception of Nurses' Work in Psychiatric Clinic. *Clinical Medicine Insights*, *1*(1), 27-33. https://doi.org/10.52845/CMI/20 20v1i1a5

11. Lozano, R., N. Fullman, J.E. Mumford, M. Knight, C.M. Barthelemy, C. Abbafati, H. Abbastabar, et al. "Measuring Universal Health Coverage Based on an Index of Effective Coverage of Health Services in 204 Countries and Territories, 1990–2019: A Systematic Analysis for the Global Burden of Disease Study 2019." The Lancet 396, no. 10258 (2020): 1250–84. https://doi.org/10.1016/S0140-6736(20)30750-9.

12. Agrawal, A., H.A. Keche, and R. Adakane. "A Study of Accessory Renal Arteries and Its Clinical Implications." International Journal of Pharmaceutical Research 11, no. 1 (2019): 1141–44. https://doi.org/10.31838/ijpr/2019.11.01.200.

13. Madurwar, K.A., S.V. Phatak, and C. Gode. "Carotid Artery Evaluation and Its Correlation with White Matter Hyperintensities: A Study Protocol." International Journal of Current Research and Review 12, no. 22 Special Issue (2020): 62–64. https://doi.org/10.31782/IJCRR.2020.SP64.

14. Anil Kumar Gupta, Kanahaiya. l. Agarwal, Naveen Mehta, Ashish Namdev,*In-Situ*GelFormation for Ocular Drug Delivery System an Overview. Asian Journal of Biomedical and Pharmaceutical Sciences, Vol. 1, Issue 4, 2011, ISSN (O) 2249-622X, pp. 01 – 07