RESEARCH ARTICLE

MULTIPLE SCLEROSIS IN QATIF.

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Manuscript Info	*Abstract*
Manuscript History Received: 05 December 2017 Final Accepted: 07 January 2018 Published: February 2018	**Introduction:**Multiple sclerosis (MS) is an autoimmune disorder that attacks the central nervous system, characterized by dissemination in space and time which results in a wide range of neurological manifestations. In this review, we discuss MS in Qatif which is small city in Saudi Arabia with a population around 500 thousands that descend from almost one ethnic background. **Materials and Methods**: A comprehensive literature search was performed to extract data regarding MS in general and MS in Qatif central hospital population in specific and statistical testing to find any correlation between the disease and factors thought to affect it in QHC population. **Results:**Data have shown no relation between MS and ethnic background, age,infection and obesity in QHC population . This review will discuss the factors influencing MS; correlate their effects with disease pathology, their interaction in the context of disease development. **Conclusion:**Understanding MS development could help find ways to treat MS and influence factors which affect the development of the disease.

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Introduction:-

Multiple sclerosis (MS) is chronic autoimmune demyelinating unpredictable disorder that attacks the central nervous system with no exact etiology, characterized by neurological deficit separated in time caused by lesions to white matter separated in space. MS leads to the destruction of axons myelin and oligodendrocytes.

The disorder can clinically appear at any age most diagnoses are between the ages of 20-50 although onset is rare in childhood and after 50. Women are more prone to be affected more than men.

It is thought to affect more than 2.3 million people worldwide. While the disease is not contagious or directly inherited, studies of patterns of disease have shown factors that may help to determine what can cause the disease. These factors include: gender, genetics, age, geography environment life style and ethnicity.

Relapsing and remitting episodes of the impairment can be seen in most patients relapses tend to decrease but a steady neurological deterioration is seen in a number of patients

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Symptoms:-
As previously mentioned first symptoms tend to manifest between the ages of 20 and 50 no two patients have the exact same symptoms.

Symptoms can range between mild to severe Fatigue, vision problems (could be color blindness or lose of vision lasting for days or weeks), diplopia, eye pain, involuntary pain, muscle spasm ,weakness, stiffness, tremors, ataxia, vertigo, cognitive problems, depression, anxiety, speech impairment

A. Pathogenesis:
MS is like any other autoimmune disorder resulting in loss of tolerance to self antigens in case of MS myelin antigens which is caused by combination of environmental (geographical, ethnic background ,infections, smocking, obesity .alcohol) and genetic factors.

The CNS is protected by the blood–brain barrier (BBB) giving it immunity privileges allowing solutes and ions to get to CNS and the ability to limit the entry of immune elements

Although uncertain infectious agent is suggested to be the initiating agent such as measles, rubella, Varicella-Zoster, Epstein–Barr (EBV), and mumps virus.

Demyelination, would occur as a result of T cell mediated myelin destruction after Immunization with myelin or myelin proteins. Most patients suffer from episodic disorders and, with time the disease progresses. Inflammation and neurodegeneration are the cause of MS. Inflammation is responsible for the relapsing–remitting phases whereas demyelination (neurodegeneration) is responsible for progressive symptoms

1) Diagnosis:
There are several criteria which help diagnose MS such as Schumacher, Poser, Barkhof–Tintoré and McDonald criteria. Symptoms, physical findings and laboratory tests can't alone determent if a patient have MS or not.

A careful medical history and a neurologic exam and various tests including magnetic resonance imaging (MRI), evoked potentials (EP) and spinal fluid analysis. Giving a better chance to diagnose or rollout MS to diagnose. MS physician must find evidence of damage at two or more separate areas of the central nervous system (CNS), and the damage occurred at least one month apart and roll out all other possible diagnoses such as myasthenia gravis

Treatment:-
MS is incurable disorder modifying and slowing down the progression of the disease and treating the relapses and managing the symptoms using medication, rehabilitation and emotional support Interferon beta is found to reduce sizes and numbers of brain lesions, disability progression and attacks in relapsing-remitting phase by regulating the expression of pro and anti-inflammatory cells reducing it crossing through the brain blood barrier Vitamin D is thought to affect the prevalence of MS and it has nueroprotactive properties Other drugs are used to treat different symptoms.

MS in QCH population:
As it is with other autoimmune disorders MS shows the female population is more prone to have MS than male as for QCH patients 62.6% are females
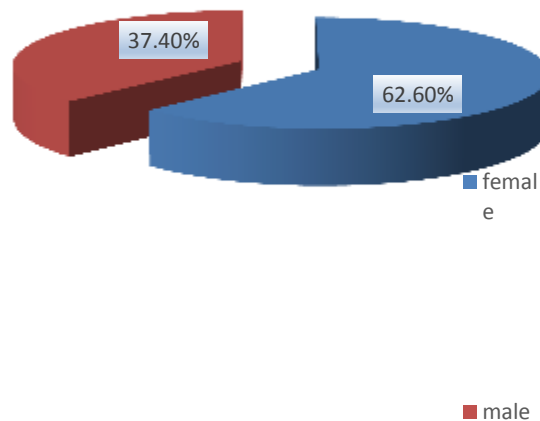
Adults are commonly affected between their twenties to their fifties peaking at the thirties there is a slight difference in the average of female and male age 33 and 35 respectively Most patients were from the same geographical region 4.9% were from of the patients are from other countries but believed to live in the same region as most patients due to that fact there was no significant evidence suggesting that geographical factor affected the MS prevalence almost all patients had the same ethnic background Most patients had normal BMI few were underweight 33.7% were overweight or obese with no significant difference between male and female patients and 17 patients had no BMI assessment Infections were thought to be the initiating agent .7.6% of the patients had one or more infection most common infection , Varicella-Zoster virus few cases of EBV ,HSV and CMV Other problems could manifest with MS 13.3% of patients had such situation .epilepsy and vitamin D deficiency are the most common of these problems vitamin D deficiency is growing problem QCH population the general population think that because that Qatif has a lot of sun light that that the prevalence of vitamin D deficiency is not a big problem on the contrary due to the hot weather people don't go outside as much making them prone to get vitamin D deficiency All this data is insignificant evidence of which factors can affect MS prevalence and etiology in QCH population

Conclusion:-
Our understanding of MS is still incomplete further studies on a larger scale should be conducted on infections ethnic background vitamin D deficiency and patient's life styles to help us further understand Multiple sclerosis.

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