

دبلوم علم النفس العصبى

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قسم علم النفس

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Answer the following questions

- 1- Discuss the historical overview of cerebral lateralization and what we mean by hemisphere specialization?
- 2- Explain in details the psychiatric aspects of epilepsy and what are the relation between epilepsy and schizophrenia
- 3- Discuss the recent developments in epidemiology of epilepsy

4- Explain the following statements

- A- Cognitive function in late life psychosis.
- B- The neurophysiological basis of schizophrenia – affective disorder - anxiety.
- C- The neuropsychological performance in chronic schizophrenia.

Good luck

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Question 1

The clinical observation of Broca, Wernick, and other 19th- century neurologists provided the first clues concerning the lateralization of function in human brain. The high correlation between aphasic disorder and left hemisphere lesion in right – handed person suggested that the neural substrate of language was primarily localized to the left half of neocortical mass which came to be referred to as the major or dominant hemisphere. In contrast, the right hemisphere was relegated to a minor or non – dominant position because of the conspicuous absence of evidence that this half- brain played other than a minimal role in higher cortical function.

By the mid -20th century however it was obvious that the major-minor partition of cerebral functioning applied only to linguistic mechanisms and not to the overall pattern of cerebral activity.

As early as 1935 Weisenburg and McBride had reported that patient with right hemisphere, unlike those with left lesion, performed poorly on test involving the manipulation and appreciation of forms and spatial relationships.

The emergence of the Bogen and Vogel series of split brain patients added new dimensions to the study of hemisphere function. The initial studies of Gazzaniga, Bogen and Sperry confirmed in dramatic fashion the conclusions drawn from the earlier studies of clinical and normal subjects.

2- the psychiatric aspects of epilepsy

1- Anxiety disorders

Relatively few studies deal with anxiety disorders and epilepsy , perhaps because of the difficulty in separating the normal or situational anxiety that accompanies a chronic disease from a primary psychiatric anxiety disorder

Health professionals who deal with epilepsy must be familiar with panic disorder for a variety of reasons patient may complain of spells and panic disorder may need to be considered in the differential diagnosis panic disorder may coexist with epilepsy and be a significant source

Mood disorder

Many issues must be taken into account when mood disturbance are evaluated in person with epilepsy this included drug effect mood changes as a part of the ictal event mood changes secondary to reduced frequency or cessation of seizures

Although depressed mood is rarely an ictal event patients whose aura manifests as sadness depression or suicidal ideation typically have depressive symptoms persisting for hours to days after the seizures

Mania

Little mention is made in the literature of mania- hypomania or classic bipolar affective disorder in patient with epilepsy and most authors describe these condition are rare

the relation between epilepsy and schizophrenia

people who have epilepsy seem particularly liable to certain chronic interictal psychosis that closely resembles schizophrenia and episodic psychotic states, some of which may arise in close temporal lobe

certain form of epilepsy may act as risk factor for the subsequent development of a chronic interictal psychosis a syndrome sometimes referred to as the schizophrenia- like psychoses

3-- the recent developments in epidemiology of epilepsy

Epilepsy affects individuals worldwide irrespective of age race geographic area or socio- economic group

In developed countries the incidence of epilepsy is about 50/100.000 and that of all afebrile seizures .

Age:

The onset of epilepsy occurs at the extremes of life the incidence is highest during the first few months after birth low during adult years and increases in the elderly the incidence is also higher among people over 70 than during the first 10 years of life.

Seizure type :

In the usa japan and probably most European countries about half the cases in incidence studies are partial epilepsy and the other half generalized epilepsy this proportions may not be the same in south America where the only incidences study of epilepsy reported a higher proportion of case with generalized onset epilepsy

Gender

a consistent finding in epilepsy incidence studies is that males are more commonly affected although men have a higher incidence of risk factors for epilepsy

etiology

most physicians have preconceived ideas about postnatal causes of epilepsy head brain trauma stroke cns infection and degenerative brain disease

Explain the following statements

Cognitive function in late life psychosis.

There has been a century – long controversy regarding the diagnosis and etiology for patient who develop psychosis late in life kraepelin 1919 observed that approximately 10%of patient with a schizophrenia like illness developed their symptoms after the age of 40 . more recent studies have suggested that some patients with late life psychosis have structural or metabolic brain disease as a contributing if not causal , factor in their illness

To explore further the relation between structural brain injury and L L P we did psychiatric neurological and neuroimaging examinations comparing patients with l l p with normal elderly control .

Approximately 250 patients over the age of 45 with psychosis were screened , and 24 met the entry criteria the result indicated that structural brain injury is commonly associated with late onset of psychosis .

The neurophysiological basis of schizophrenia –

Schizophrenia can be defined as a group of disorders representing the evolution of a disorganizing psychotic processes and the end of these processes in the form of personality deficits or deterioration.

Herbet concluded that any theory of schizophrenia that depends only on the deficit in the nervous system is not satisfactory and a neural mechanism is lesion in limbic system and

corpus callosum is thickened in patients with chronic schizophrenia and this mean a poor link between the two cerebral hemispheres ,

raquel concluded that schizophrenia may be due to left hemisphere dysfunction taylor suggested that tempora lobe abnormality predominates in schizophrenia

affective disorder

affective disorder can be defined as a group of mental diseases with primary disturbance of affect from which all together symptom seem to be more or less directly derived

numerous diseases of the central system including general paralysis and cerebral arteriosclerosis are commonly accompanied by affective disorder manic depressive has also been observed in patient with die cephalic lesion

anxiety:

the psychological basis lies in an overall increase of nervous activity mainly of the autonomic nervous system where rise in concentration of adrenaline in blood itself leads to mobilization of sugar reserve from the liver increased micturition peristalsis

C. The neuropsychological performance in chronic schizophrenia.

One of the central brain behavior relationships in schizophrenia is the positive association between neuropsychological impairment and brain abnormalities of structure and function this association has provided some confirmation that neuropsychological impairment has a neurological basis at least in chronic patient

we notice that there is a link between Wisconsin card sorting test performance and lowered dorsolateral prefrontal cortical blood flow in chronically ill schizophrenics

the patients completed a 2 to 3 hour battery of tests designed to tap a broad range of functions . our measures of frontal lobe function were the categories and perseverative response scores of the wcst the similarities subtest of the Wechsler adult intelligence scale revised the auditory continuous performance test and finger tapping speed with each hand

test of immediate and delayed recall of verbal logical memory was used too.

The result of this study indicated that the 17 patient in neuropsychological study made a correlation between neurocognitive measure of prefrontal function and dorsolateral prefrontal cortex area strongest in left hemisphere