MASTER2 de COMMUNICATION INTERNATIONALE
EN SCIENCES DE LA SANTÉ

TEST DE PRÉSELECTION

1/ Traduire le texte suivant en anglais

Vers une signature de la schizophrénie

Pour l'instant, on ne parvient pas encore à caractériser clairement les anomalies cérébrales inhérentes à la schizophrénie. Mais une nouvelle étude, menée « *in vivo* » par deux psychiatres américains, tend à confirmer ce que l'on supposait déjà : les troubles seraient liés à un décalage dans la synchronisation de la transmission de l'information entre neurones.

Selon une hypothèse couramment admise, la schizophrénie serait liée à l'incapacité des réseaux de neurones à fonctionner de manière cohérente. On pense en effet que des phénomènes cognitifs tels que la perception, l'attention sélective, la mémoire immédiate, voire la conscience, résultent entre autres de la synchronisation des activités électriques oscillatoires entre les neurones concernés. Des observations *post mortem* ont d'ailleurs révélé chez les schizophrènes des anomalies d'une catégorie de neurones dits « intermédiaires », impliqués précisément dans cette synchronisation, ce qui pourrait expliquer les altérations du traitement précoce de l'information. Mais comment étudier ce phénomène *in vivo* ?

Des psychiatres américains ont décidé de détailler l'activité électrique cérébrale de sujets répondant à un signal visuel. Ils ont demandé à vingt patients schizophrènes et à vingt volontaires sains, tous des hommes adultes, de presser un bouton lorsqu'ils identifiaient un carré virtuel, dessiné en creux, dans des figures apparaissant sur un écran. Leur activité cérébrale était observée par électroencéphalogramme (EEG), seule technique permettant de suivre l'évolution de signaux oscillant à des fréquences de plusieurs dizaines de hertz.

La Recherche, janvier 2005

2/ Résumer le texte ci-dessous en français, en 150 mots maximum.

3/ Traduire en français les quatre paragraphes soulignés

Sometimes, for a Diagnosis, It Takes a Village

The ancient Babylonians had a creative approach to medical diagnosis. When someone got sick, relatives would haul the patient to the market square. There, passers-by were honor-bound to stop and discuss the patient's symptoms, in the hope that one of them would recognize the illness and suggest a cure.

How lucky we are to have evolved beyond these random and primitive methods.

A 49-year old woman visited a modern emergency room a few years ago with a fever and a feeling of weakness in her legs. She had an extremely elevated white blood cell count, suggesting an infection somewhere. A chest X-ray showed a shadow in the middle of her right lung. She was admitted to the hospital with a provisional diagnosis of pneumonia.

Her doctors gave her two powerful antibiotics for pneumonia. The fever disappeared. She was told it might be time for her to go home. She pointed out that she was still having trouble walking.

A neurologist was asked to see the patient. He confirmed that she had definite weakness in both legs, suggestive of a problem in the brain, possibly multiple sclerosis. He recommended an M.R.I. scan of the brain.

The scan was performed. It showed half a dozen large masses scattered through the patient's brain, compressing normal tissue. They might be abscesses, the radiologist said, or they might be metastatic cancer. A biopsy had to be done.

A neurosurgeon was asked to see the patient. He pointed out that the masses were so deep in the brain that any biopsy attempt would probably leave permanent neurological damage. He was sorry, but he was unable to help.

The patient's doctors sent her for M.R.I. scans of her chest, her abdomen and her pelvis, in hope of finding a malignant tumor somewhere else in the body, from which the brain cancer might have spread.

The new scans were not helpful. They showed only a large tangle of giant blood vessels called an arteriovenous malformation in the middle of the patient's right lung. An AVM is considered a benign finding, much like an infant's strawberry mark.

Her doctors were worried. Here she was, a young woman in the hospital eight days with a presumptive diagnosis of cancer, and there seemed to be no way to make a specific diagnosis. Was it time to start chemotherapy?

An oncologist saw the patient and reminded her doctors that chemotherapy was a little premature: the masses in the brain might actually represent infection, and not cancer at all.

A team of infectious-disease consultants saw the patient. They pointed out with some asperity that their job would be easier had they been called earlier, before the powerful antibiotics she was still receiving for pneumonia began to erase the footprints of whatever infection might be present.

Now, they said, about all they could suggest was another brain scan to see if the masses had changed at all. And sure enough, the masses in the brain were much smaller. They were clearly abscesses that had responded to antibiotics.

The patient, her family and her doctors were delighted and relieved. She had been snatched from the jaws of death. Her antibiotics were continued, first in the hospital, then at home. Within a few months she was absolutely fine.

But why should a healthy woman suddenly develop a half-dozen brain abscesses in the first place? More tests showed that the patient had none of the medical problems that generally predispose people to them: her heart valves were normal, her teeth were in good shape, her ears were fine, her skull was intact, her immune system was normal.

One of her many doctors, tormented by a vague memory, finally sat down with a fat textbook and read about brain infections. There in black and white was a fact that, had any of the medical passers-by managed to recall it earlier, would have made the diagnosis in short order, sparing quantities of time, worry and expense.

Ordinarily the lungs help to filter bacteria out of the bloodstream. But that benign tangle of blood vessels called an AVM often lets bacteria stay in the blood and then travel around the body, settling in places where they should not be - like the brain - and growing into abscesses.

Assuredly, we have many advantages over the ancient Babylonians. We have ambulances to transport patients from home into the public sphere, where hospital beds cradle them and cadres of highly educated professionals inspect them. But it seems that we are sometimes just as dependent as the Babylonians on the happenstance of who wanders by and what they happen to remember or forget.