

MEDICINE

Malaria Symptoms Vary

Navy medical officer warns that chills and fever are not a constant symptom of malaria; advises against prophylactic atabrine doses except at front.

► CONTRARY to the popular impression among both laymen and many civilian physicians, chills and fever are not a constant symptom of malaria, warns Lt. Comdr. David R. Talbot, U.S.N.R. (*Journal, American Medical Association*, Sept. 25).

Malaria may mimic many different diseases and often the symptoms appear "inconsequential," such as vague aches and pains or skin eruptions, Commander Talbot and other medical men serving with the armed forces in malaria regions have found. The absence of chills and fever should not mislead the doctor to think the patient does not have malaria, if the patient has lived or is living in the tropics or some other malaria region.

Commander Talbot studied "two different theories of anti-malarial tactics" while on duty at an outlying base where both Army and Navy personnel were living under identical conditions of exposure to malaria. The Army group was getting regular prophylactic doses of atabrine. The Navy group was given treatment only as they showed symptoms of malaria or had positive blood tests for the infection.

When routine blood tests (thick smears) were done on all the personnel, regardless of whether or not any had symptoms of malaria, the medical officers were "astonished" to find that 66% of the Navy personnel had malaria parasites in their blood, while 48% of the Army personnel likewise showed the parasites in their blood.

In the past there had been quite a lot of frank, easily diagnosed malaria in the Navy group but very little in the Army group that was getting the prophylactic atabrine. However, when malaria did appear in the Army group, it was much more severe and took longer to cure. This convinced the doctors that the prophylactic treatment was masking symptoms while the malaria parasites were insidiously damaging the man's blood-forming organs, so that when the disease did develop, the patient's natural defensive mechanisms were so impaired that a more serious type of sickness than usual resulted.

Commander Talbot therefore believes that during peace or at bases men should be treated for malaria only after they become infected, rather than given prophylactic treatment. In an area of active combat, however, where a maximum number of men must be kept in the field to fight and especially where malaria caused by *P. falciparum* is prevalent, prophylactic measures must be adopted.

In malaria regions, he also advises, it should be a monthly routine to examine thick smears of blood from all military personnel. All persons showing malaria parasites in these examinations, whether they have symptoms of malaria or not, should be treated vigorously to forestall attacks.

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ASTRONOMY

Shell of Star in Libra Composed of Many Layers

► THE SHELL of a star in the constellation of Libra, which is not now visible in our evening sky, is composed of many intensely hot layers, each rotating at its own speed.

A layer of nickel in a gaseous state is on the outside of 48 Librae, and titanium and probably manganese, are in the deeper strata, Dr. Otto Struve, director of Yerkes Observatory, Williams Bay, Wis., reports (*Astrophysical Journal*, July).

The outermost layers of the shell rotate slowly, while the inside layers revolve much more rapidly, estimates Dr. Struve. The layers within the shell seem to be slightly expanding at certain times, and contracting at others, adding to the complexity of the action of the stratified shell.

"The star 48 Librae presents a notable paradox," concludes Dr. Struve. It combines many of the characteristics of a supergiant and a main-sequence star. The star lying beneath these thin whirling metallic layers seems to be a relatively well-behaved main-sequence B-type star.

At present the shell is fairly trans-

parent in the ordinary photographic region of the spectrum, but is essentially opaque toward the violet end.

The spectrum of the star has undergone a distinct change in recent years, reflecting changes within the star itself. During the last ten or twenty years a strong metallic absorption spectrum has developed, showing that the light from the hot center of the star was shining through an increasing number of metallic gases with temperature lower than that of the inner source of light.

The spectrum of 48 Librae is believed to denote a shell in many ways resembling the shell of Pleione as observed in 1940.

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RESOURCES

Oil Finds and Imports Needed to Increase Supply

► UNLESS new oil finds or imports are increased civilians face a further cut in use of gasoline and oil, Harry C. Wiess, president of the Humble Oil and Refining Company, declares in a report to the American Institute of Mining and Metallurgical Engineers.

More than 4,150,000 barrels of American oil are being used at home and abroad every day and requirements for next year may average over 4,400,000 barrels.

Although military demands cannot be revealed, the production of aviation gasoline alone in this country already exceeds the crude oil production available to Germany from its own fields and those of Hungary and Rumania.

"Motorists may well ask," says Mr. Wiess, "why further rationing should be discussed if passenger cars are currently using some 500,000 barrels daily less gasoline than before the war, while the nation has increased its production of crude oil. The answer is to be found in the drastic changes that have occurred in refinery operations in order to supply aviation gasoline, materials for the synthetic rubber program, and other war products."

We have about reached the peak of our efficiency in production, Mr. Wiess believes, and that peak is about 250,000 barrels per day short of the estimated daily need for 1944. He believes that the least desirable solution to the problem is further increased production at the risk of depleting our reserves, since less oil can be recovered when overproduction is attempted.

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