25X1A

CLASSIFICATION SECRET

CENTRAL INTELLIGENCE AGENCY

REPORT NO.

INFORMATION REPORT

COUNTRY USSR

DATE DISTR. 25 June 1948

SUBJECT Anti-Malaria Drugs Acrichin, Acridin-8, Plasmocid, and Chinolin-31

NO. OF PAGES 4

39918

PLACE ACQUIRED

25X1C

NO. OF ENCLS. (LISTED BELOW) Photostats, 217 sheets

25X1A

DATE OF INFO

EVALUATE

SUPPLEMENT TO REPORT NO

25X1X

Attached for your retention is a photographic copy of a 424-page Soviet document on pharmacology, mentioned in [redacted]. The following description of the nature and uses of the anti-malaria drugs acrichin and plasmocid (previously referred to as plasmocit) is a translation from Russian of pages 364 to 367 of this document. These drugs were the subject of two previous reports, forwarded to you as [redacted], in which it was claimed that the drug plasmocid is a successful cure for estivo-autumnal malaria.

25X1A

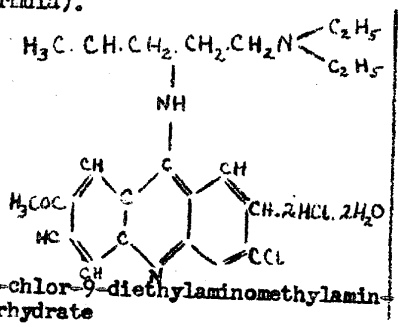
25X1A

* * * * * * *

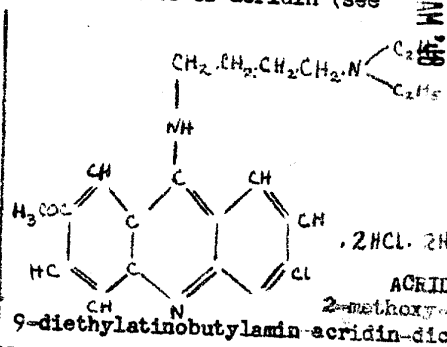
ACRIDIN COMPOUNDS

Acrichin and Acridin No. 8

1. Synthetic Soviet preparations, analagous in chemical composition to German atabrin, i.e., they represent derivatives of acridin (see formula).



ACRICHIN
2-methoxy-6-chlor-9-diethylaminomethylamin-acridin-dichlorhydrate



ACRIDIN-8
2-methoxy-6-chlor-9-diethylatinobutylamin-acridin-dichlorhydrate

2. Both preparations are of bright yellow color, crystalline structure, and intensely bitter taste; they are soluble in water, alcohol, and glycerine, but insoluble in ether. In comparison with quinine, acrichin and acridin-8 are absorbed slowly and excreted by the organism roughly ten times more slowly and therefore manifest a

JUN 28 10 29 AM '48 SCI

CLASSIFICATION SECRET

STATE		NAVY		NSRB		DISTRIBUTION						
ARMY	X	AIR										

Extracted by I.R.

stronger effect on the organism. Under usual conditions, up to 50-70% of the amount introduced is excreted by the kidneys.

3. Like quinine, acrichin and acridin-8 have an advantageous effect against merozoite and schizont forms. They are well tolerated by patients, even by children and pregnant women. There are contra-indications in diseases of the liver and kidneys. A marked yellow tint of the skin, depending on the molecular content of these preparations of the acrichin complex, appears in two to three weeks; but sometimes, besides the yellow tint of the skin, toxic symptoms appear: vertigo, sleeplessness, tachycardia, dulling of memory, illogical behavior, sometimes rage, temporary disturbance of vision, and general weakness.

4. Acrichin and acridin-8 are employed for both medicinal and prophylactic purposes per os (sic; by mouth?) and parenterally in conjunction with or instead of quinine, particularly in cases of idiosyncrasy toward quinine and also in such cases as pregnancy, haemoglobinuria (blackwater fever), and the like. There is an indication that acridin-8 is less toxic than acrichin. The following schedule for the use of acrichin (acridin-8) per os is suggested:

1) For three-day malaria: 0.1 (gram?) acrichin three times a day for seven consecutive days; course of treatment is repeated two or three times with ten- to twenty-day rest periods.

2) For tropical and mixed (three-day and tropical) forms of malaria: a seven-day cycle of administering of 0.1 (gram?) acrichin three times per day is combined with the giving of a five-day course of 0.03 (gram?) of plasmocid (see below) twice a day (two or three courses).

Children are given per os:

Nursing to 1 year:	0.05 (gram?)	(divided into three doses)				
1 to 4 years:	0.1	"	"	"	"	"
5 to 10 years:	0.15	"	"	"	"	"

5. Acrichin is administered parenterally in the form of a milk jelly (?) (molochnokislovo = molochny kisel?) compound, easily soluble in water and issued in 0.2 (gram) amounts in dry form in soldered ampules. The powder is dissolved ex tempore in 2 to 3 cc. of distilled water. Subcutaneously and intramuscularly, it is administered in 0.2 (gram?) amounts once or twice a day; intravenously, 0.1 (gram?) per day.

6. For prophylactic purposes, acrichin is administered every third day, or for two days after every four days, at the rate of 0.1 (gram?) twice a day, i.e., 0.4 (gram?) of acrichin is given in six days.

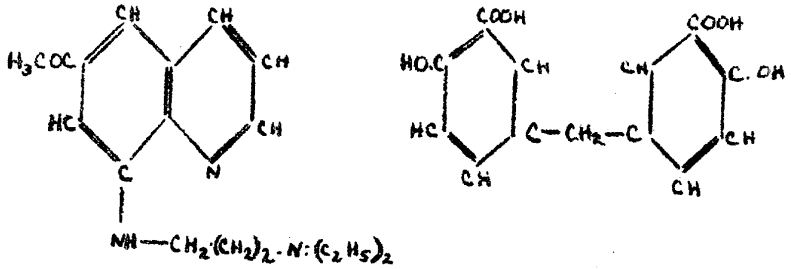
7. Good results are achieved with acrichin by early treatment in this manner of brucellosis.

8. Acrichin is recommended for treatment of Giardia Lamblia. With the aid of a duodenal tube, 10 cc. of 2.5% solution of acrichin is introduced into the duodenum; after ten minutes, 40 cc. of 33% solution of $MgSO_4$; and then the intestine is irrigated with a physiological solution (150 cc.) by the syphon method. The treatment is repeated every two or three days (four or five times).

Plasmocid and Chinolin 31

9. The anti-schizont drugs--quinine, atabrin, acrichin, and acridin-8--are not fatal to the sexual forms of the development of the plasmodia--the gametes. The fight against the latter (gametes) and, consequently, the complete sterilization of the organism of plasmodia became possible and successful at the time of the preparation of plasmochin and rodochin abroad and of plasmocid and chinolin-31 in the USSR. These preparations are derivatives of chinolin, distinguished from each other by the fact that in the molecule of the German plasmochin is found a pentyl group, while in the molecule of plasmocid there is a propyl group; and chinolin-31 by structure to a known degree is an intermediate link between plasmochin and plasmocid. Thanks to chemico-pharmacological analysis of the preparations, it became clear that the pharmacologically active group in them, as also in quinine, appears to be chinolin, which transports (unchanged) through the medium and tissues to the protoplasm of the gametes (conductoform)(?)... a diethylamino-alkyl group, connected with an amino group of chinolin.

10. Plasmocid (antimalarin) is diethylamino-propyl 6- methoxy 8--aminochinolin. It is released in the form of a methyldisalycilo salt:



11. It is a dark brown, sweetish tasting powder, insoluble in water. By its dynamic property, plasmocid is analagous to the foreign plasmochin, with a pronounced gametocidal effect, in particular against semi-monthly tropical malaria /the ring (cycle?) of tropical malaria is not affected/ in contrast to quinine, which acts upon merozoite and sporozoite forms. The greatest effectivity of plasmocid is manifested in quartan malaria, followed by tertian. In tropical and also three-day fever, the clinical effect is significantly lower and a combined treatment with quinine or acrichin (acridin-8) is required. Thanks to the gametocidal effect of plasmocid, the possibility of the patient's transmitting the infection by mosquito quickly disappears, a property which is requisite to a practical anti-malarial prophylactic.

12. Treatment with plasmocid (chinolin-31) is effected in three-day cycles of 0.03 (gram?) two or three times a day, separated by four-day rest periods, repeated four to six times. It is recommended that the preparation be given after eating and be accompanied by half a glass of water. In many cases, plasmocid (chinolin-31) is administered in combination with quinine on (either of?) the following schedules:

a) The first two cycles of treatment with plasmocid (0.03 gram twice a day) are combined with a supplementary treatment with quinine (0.25 gram five times a day).

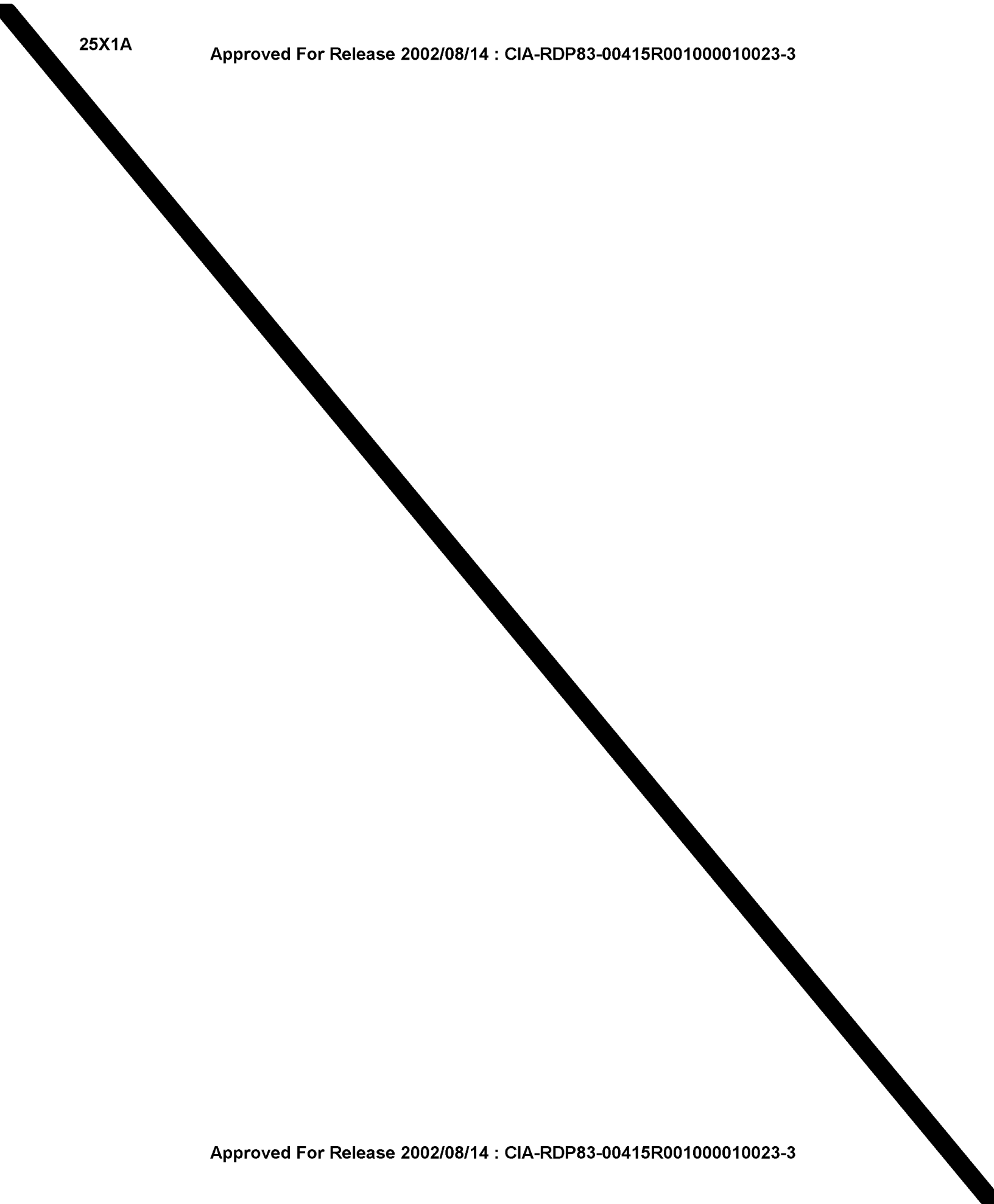
b) All cycles of treatment with plasmocid are combined with simultaneous administering of quinine.

In addition, plasmocid is often combined with acrichin (acridin-8) and also with osarsol (see below). ([redacted] Comment: See p. 369 25X1A

of photostat for osarsol: 4-oxy-3-acetylamino-phenylarsenic acid, analagous to foregin stovarsol and spirocid.) In the treatment with plasmocid, it should be remembered that this substance does not appear indifferent: secondary reactions can be observed------acute pains in the substernal region and in the whole body, headache, nausea, vomiting, ataxia, haemoglobinuria, polyneuritis in the region of the cranial nerves, amaurosis, and atrophy of the optical nerve.

13. In the literature, it is noted that chinolin-31 manifests somewhat less toxicity than plasmocid. In cases of the appearance of symptoms of intoxication, it is necessary not only to discontinue the administering of plasmocid but also to provide full bed rest for the patient and symptomatic treatment. It should be remembered also that plasmocid cannot stand exposure to light; therefore it appears obligatory to keep plasmocid in an orange glass jar and to store it in a dark place.

14. The use of plasmocid is forbidden for children under ten years of age, also in organic diseases of the nervous system and diseases of the eye. Caution is required in administering it to patients with haemoglobinuria, parenchymatous diseases of the liver and kidneys, and also to pregnant women.



Approved For Release 2002/08/14 : CIA-RDP83-00415R001000010023-3