Studies on the Detoxicating Hormone of the Liver (Yakriton).

75th Report. §

Effect of Yakriton* to Prevent Scarlatinal Nephritis.

By

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In the 71st report on the present studies, Sato, Yamagishi, Abe and Yoshida¹⁾ made a preliminary report on prophylactic effect of yakriton against scarlatinal nephritis. The cases were only 10 in all, but they were all typical scarlatina and consecutive cases. We wanted to continue the clinical experiment and tried the prophylaxis in a further 25 cases of typical scarlatina admitted to our Department. The present paper will show first of all when yakriton therapy should be instituted.

Method of Clinical Experiment in Our Own 25 Cases.

1. Materials. Typical cases of scarlatina; those cases that had developed already nephritis when admitted to our Pediatric Department were excluded from our experiment.

2. Use of Yakriton. In all cases yakriton was used. As to the amount of yakriton, different numbers of yakriton from $\frac{1}{5}$ to 2 R.A.U. were used. The general principle was the use of smaller units in severer cases.

§ Read at the 36th General Meeting of the Japan Pediatric Society held in Kanazawa, April, 1931.

* Throughout the work emulsified yakriton was used.

1) A. Sato, M. Yamagishi, J. Abe and M. Yoshida, Tohoku J. Exp. Med., 1936, 28, 156.

3. Diet and remedies. From our side a not very strict diet was (intentionally) given, but where there were exceptions to this, it was because families made it somewhat strict of their own account.

4. Remedies. Remedies differed according to cases, but the different remedies used may be summarized as follows:—

1. Gargles: 0.3% hydrogen peroxide, twice diluted presojud, besides the use of other throat applications.
2. Heart stimulants: Caffeno-natrium benzoicum, digifolin, coramin, cardiazol and vinum.
3. Digestives and vitamin preparations: Vitamin B-preparations, such as beriberol and ebios, pepsin, diastase, etc.
4. Sedativum: Bromural preparation.
5. Antidiphtheric serum, and myosalvarsan (for intramuscular use).

Result of Clinical Experiment.

Here we desire to relate a small statistical study of the results of all the 35 typical scarlatinal cases (Cf. Table I) including 10 cases reported in our preceding paper, instead of giving here our own 25 case reports alone.

1. Relation between the late use of yakriton and the frequency of nephritis. When is the use of yakriton to be begun for the prevention of scarlatinal nephritis? It seems to be reasonable that it should be used in most cases at the beginning of the third week of the disease, but actually it is not. The general rule is: the earlier the better, as will be seen from Table II. Though the number of cases under each date of the course of the disease (Cf. Table II) are only a few, yet the cases under the 4th day are 14 in number and it is probable that the commencement of yakriton therapy as early as on the 4th day of the disease will be able to prevent the development of scarlatinal nephritis. But to begin it on the 6th day or the 7th day will not necessarily prevent nephritis, though the result was not so bad as in the cases of the commencement of it in the second week (Cf. Table II). But even this might have still more or less effectual than if yakriton had not been used.

If we divide all the 35 cases into 3 groups according to the time of beginning yakriton therapy, then the 14 cases in which the hormone began to be used not later than the 4th day of the disease did not develop nephritis, while, of the 9 cases in which it began in the first

TABLE I.

All the 35 cases collected.

Case	Age y=years m=months	Number of days of admission	The 1st day of yakriton therapy (day of disease)	Course	Nephritis complicated	Complications and remarks
Ohizumi ♂	7 y 10 m	30	2nd	Recovery	(-)	
Yamagishi ♀	3 y	18	2 "	Recovery	(-)	
Tadano ♂	7 y 2 m	20	3rd	Recovery	(-)	
Kato ♀	4 y 1 m	20	3 "	Recovery	(-)	
Takeda ♀	9 y 6 m	26	3 "	Recovery	(-)	
Okabe ♂	4 y 4 m	33	4th	Recovery	(-)	Diphtheria
Imai ♂	3 y 6 m	23	4 "	Recovery	(-)	
Igarashi ♂	7 y 2 m	37	4 "	Recovery	(-)	Coxitis, otitis media and myositis
Sato ♀	9 y 11 m	32	4 "	Recovery	(-)	Stomatitis gangraenosa and lymphadenitis sub- maxillaris purulenta
Kokado ♀	4 y	12	4 "	Death	(-)	Lymphadenitis inguinalis purulenta
Aizawa ♂	4 y 1 m	29	4 "	Recovery	(-)	
Kurata ♀	2 y 8 m	38	4 "	Recovery	(-)	
Hayashi ♀	3 y 9 m	24	4 "	Recovery	(-)	
Ito ♂	11 y 6 m	34	4 "	Recovery	(-)	
Hariu ♀	7 y 1 m	25	5 "	Recovery	(-)	
Kawada ♀	9 y 1 m	19	5 "	Recovery	(-)	
Fukuda ♂	4 y 11 m	61	6 "	Recovery	(+)	Bronchitis; albumin and cylinder in urine
Tsuda ♂	9 y 4 m	28	6 "	Recovery	(-)	
Ohmori ♂	10 y 6 m	32	6 "	Recovery	(-)	
Fuzita ♂	4 y 7 m	14	6 "	Recovery	(-)	
Kitake ♀	7 y 1 m	31	7 "	Recovery	(-)	Diphtheria
Yamada ♀	9 y 5 m	19	7 "	Recovery	(-)	Otitis media
Ishikawa ♀	5 y 10 m	13	7 "	Recovery	(-)	
Yahagi ♂	6 y 1 m	42	8 "	Recovery	(+)	Otitis media; albumin and cylinder in urine
Ito ♂	10 y	32	8 "	Recovery	(-)	Bronchoadenitis tuber- culosa
Igata ♂	4 y 4 m	24	8 "	Recovery	(-)	
Sato ♂	9 y 2 m	27	8 "	Recovery	(-)	
Oikawa ♂	9 y 6 m	29	9 "	Recovery	(-)	
Sano ♀	4 y 9 m	26	9 "	Recovery	(-)	
Konno ♂	8 y 1 m	29	9 "	Recovery	(+)	Diphtheria; albumin, erythrocytes, leucocytes and cylinder in urine
Oikawa ♀	6 y 7 m	24	10 "	Recovery	(-)	Albumin, erythrocytes, leucocytes and cylinder in urine
Abe ♀	12 y 5 m	37	10 "	Recovery	(+)	
Uchida ♂	5 y 5 m	24	10 "	Recovery	(-)	
Suzuki ♀	3 y 6 m	12	10 "	Recovery	(-)	
Matsuki ♂	2 y 8 m	16	12 "	Recovery	(-)	
		27	6			

week, but later than the fourth day of the disease, one case or about 11% (i. c. 2.9% of all the 35 cases) developed nephritis. And of the 12 cases in which yakriton therapy began between the 8th and 12th day of the disease, nephritis occurred in 25% (i. c. 8.5% of all the 35 cases) (Cf. Table III).

However, all the 4 nephritis cases took a rather mild course with-

TABLE II.

Relation between the date of the commencement of yakriton therapy and the frequency of nephritis complication.

The 1st day of yakriton therapy (day of the disease)		2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	Total
Case	{ Case	2	3	9	2	4	3	4	3	4	0	1	35
	{ %	5.7	8.6	25.7	5.7	11.8	8.6	2.8	8.6	11.8	0	2.8	
Nephritis	{ Case	0	0	0	0	1	0	1	1	1	0	0	4
complicated	{ %	0	0	0	0	2.8	0	2.8	2.8	2.8	0	0	11.4

TABLE III.

Relation between the date of the commencement of yakriton therapy and the frequency of nephritic complication.

Group	Yakriton therapy commenced			Nephritis complicated		
	up to and on the 4th day	up to and on the 7th day	up to and on the 12th day	Cases	%	Total
Group 1	14 cases			0	0%	0%
Group 2		9 cases		1	11.1%	2.9%
Group 3			12 cases	3	25%	8.5%
Total				4	11.4%	11.4%

TABLE IV.

Our own 25 cases collected.

Case	The 1st day of yakriton therapy (day of disease)	R.A.U. of yakriton	Number of times of injection	Nephritis complicated
Ohizumi	2nd	2	30	(-)
Yamagishi	2 "	2	18	(-)
Tadano	3rd	1	20	(-)
Kato	3 "	1	20	(-)
Takeda	3 "	1	12	(-)
Okabe	4th	0.5, 1	31	(-)
Imai	4 "	0.5, 2	22	(-)
Igarashi	4 "	2, 4	36	(-)
Sato	4 "	1	14	(-)
Kokado	4 "	1	12	(-)
Aizawa	4 "	2	29	(-)
Kurata	4 "	2	38	(-)
Hariu	5 "	0.5	25	(-)
Fukuda	6 "	1, 4	61	(+)
Tsuda	6 "	1	25	(-)
Ohmori	6 "	2, 0.5	24	(-)
Yahagi	8 "	2	37	(+)
Ito	8 "	2, 0.5	27	(-)
Oikawa	9 "	0.5	22	(-)
Sano	9 "	2, 1, 0.5	21	(-)
Konno	9 "	2	14	(+)
Oikawa	10 "	0.5	16	(-)
Abe	10 "	2	30	(+)
Uchida	10 "	2	24	(-)
Suzuki	10 "	1	11	(-)

out developing any serious complication. And all the 35 cases recovered at length, except one septic cases with angina necroticans and stomatitis gangraenosa that took a fatal termination. As to the amount of yakriton in our own 25 cases, this is shown in the accompanying table (Cf. Table IV). By the way, it is to be noted here that the above described result might have been different if severe septic cases of scarlatina alone had been made the objects of investigation.

Summary.

We tried in our own 25 cases of typical scarlatina, yakriton therapy for the purpose of prevention of nephritis. And if nephritis would be prevented by means of yakriton, the use of this hormone should be begun, as has been taught by all the 35 cases including the 10 cases reported in the 51st report on yakriton, before the 4th day of the disease and continued every day up to the third week.

Conclusions.

The use of yakriton is effectual for prevention of scarlatinal nephritis, if it is given early in the first week of the disease.