

TREATMENT OF RHEUMATOID ARTHRITIS WITH YODOXIN

A Preliminary Report from the
Desert Arthritis Medical Clinic

by Robert Bingham, M. D.

July 14, 1984

Yodoxin is a brand of Iodoquinol, also known generically as Diiodohydroxyquinon. Iodine is the active ingredient, used for generations as a treatment for amoebic infections and similar large cell organisms, fungi, algae and protozoa.

About two years ago the Searle company, manufacturers of Diodoquin, another brand of Iodoquinol, ceased its distribution in the United States for two reasons - the poor demand for this medicine due to the rarity of amoebic dysentery in this country and the fear that it would be used for the common bacillary dysenteries, especially in children, with possible ophthalmic complications and the resulting legal liabilities.

We needed a drug of this type to treat patients where Flagyl was poorly tolerated or where the rheumatoid disease appeared resistant to this medication.

Fortunately, we were able to find another distributor with the product, Yodoxin, which we have used with considerable success as the primary treatment of rheumatoid arthritis.

Prior to this meeting I requested the Clinic Staff to compile a short series of consecutive cases in which Yodoxin was prescribed and in which we had follow-up laboratory confirmation of the clinical improvement we obtained in these active disease.

These results were all obtained within two or three weeks, the length of time we consider necessary to verify the value of Yodoxin on the patient.

We have found that an elevated sedimentation rate, an elevated white blood cell count with a total increase in eosinophils, and a relative low hemoglobin and hematocrit are significant and verifying laboratory findings in rheumatoid diseases. Shown here are findings before and /after ten days of treatment with Yodoxin at the usual adult dose: 650mg. three times a day, for ten days, taken with meals

Patient	Sedimentation Rate	White Blood Count	Eosinophils	Hemoglobin or Hematocrit
S.C.	61 / 30	7.5 M / 6.5	18 / 0	38 % / 37 %
P.J.	16 / 14	4.7 / 5.5 *	4 / 3	13.5 / 14.9 Gm.
B.J.	63 / 44	7.0 / 6.0	2 / 0	12.5 / 13.0
J.H.	100 / 48	4.3 / 5.8 *	1 / 0	14.0 / 14.5
L.G.	110 / 64	9.6 / 6.3	5 / 2	38.7 / 37.0
M.P.	23 / 49 *	14.9 / 8.6	2 / 5 *	53.0 / 51.0
C.A.	28 / 6	6.8 / 7.2 *	6 / 2	16.6 / 14.0
R.R.	107 / 83	7.3 / 5.4	2 / 2	40.0 / 38.0
J.R.	130 / 97	14.0 / 5.6	0 / 0	12/2 / 13/6
M.R.	38 / 16	11.0 / 9.5	0 / 2 *	40.0 / 38.0
U.W.	95 / 72	9.0 / 7.6	1 / 0	41.0 / 40.0
E.S.	56 / 54	8.4 / 8.0	1 / 0	8.4 / 9.0
V.S.	104 / 68	5.7 / 4.4	5 / 3	34.0 / 36.0
G.M.	126 / 34	8.7. / 6.1	1 / 2 *	35.0 / 34.3
J.C.	125 / 70	17.0 / 9.8	12 / 2	12.5 / 14.3

* Note: Occasionally there is seen a reversal of the usual trend in the clinical laboratory findings, clinical improvement notwithstanding.



NDC 0516 - 0093 - 10

650 mg. Tablets

YODOXIN®
(Iodoquinol Tablets, U.S.P.)

1000 Tablets

CAUTION: Federal law prohibits
dispensing without prescription.

Mfg for
GLENWOOD INC.,
Tenafly, N.J. 07670
by: The Vitarine Co.,
Springfield Gardens, N.Y. 11413

Store at Controlled Room Temperature -
15-30° C (59-86° F).
PROTECT FROM HEAT AND MOISTURE
WARNING: Keep out of the reach of
children.
PACKAGE NOT CHILD RESISTANT.

Each tablet contains:
Iodoquinol, U.S.P. 650 mg.
SEE PACKAGE INSERT FOR
DOSAGE INFORMATION.
Lot No. 9301
Exp. Date: 8/84

Made in U.S.A.

YODOXIN

B

(Iodoquinol Tablets, U.S.P.)
210 mg. and 650 mg. Tablets

Composition: Each tablet contains: Iodoquinol,
U.S.P. 210 mg. or 650 mg.

Description: Iodoquinol is of a light yellowish to
tan color, nearly odorless and stable in air. The
compound is practically insoluble in water, and
sparingly soluble in most other solvents. It con-
tains 64 per cent organically bound iodine.

Action: Iodoquinol is amebicidal against *Enta-
moeba histolytica* and is considered effective
against the trophozoite and cyst forms.

Indications: Iodoquinol is used in the treatment
of intestinal amebiasis.

Contraindications: Known hypersensitivity to
iodine and 8-hydroxyquinolines. Contraindicated
in patients with hepatic damage.

Warnings: Optic neuritis, optic atrophy, and
peripheral neuropathy have been reported follow-
ing prolonged high dosage therapy with halo-
genated 8-hydroxyquinolines. Long term use of this
drug should be avoided.

Use in Pregnancy: Safety for use in pregnancy or
during lactation has not been established.

Precautions: Iodoquinol should be used with
caution in patients with thyroid disease.

Protein-bound serum iodine levels may be in-
creased during treatment with iodoquinol and
therefore interfere with certain thyroid function
tests. These effects may persist for as long as six
months after discontinuation of therapy. Discon-
tinue the drug if hypersensitivity reactions occur.

Adverse Reactions: Skin: various forms of skin
eruptions (acneiform papular and pustular; ballae;
vegetating of tuberosus iododerma), urticaria and
pruritus. Gastrointestinal: nausea, vomiting, ab-
dominal cramps, diarrhea, and pruritus ani.

Fever, chills, headache, vertigo and enlargement
of thyroid have been reported. Optic neuritis, optic
atrophy and peripheral neuropathy have been
reported in association with prolonged high-dose
8-hydroxyquinoline therapy.

Dosage and Administration: Usual adult dose:
(210 mgm. each) 3 tablets three times daily, after
meals for 20 days. Children 6 to 12 years: (210
mgm. each) 2 tablets, t.i.d. Children under 6: (210
mgm. each) one tablet per 15 pounds of body
weight. Usual adult dose: (650 mgm. each) One
tablet three times a day for twenty days, to be
taken after meals. Children (650 mgm. each): For
twenty days, 40 mg. per Kg. of body weight daily
divided into 3 doses.

How Supplied: 210 mgm. NDC-00516-0092-01
bottle of 100 tablets and NDC-00516-0092-10 bottle
of 1,000 tablets. 650 mgm. NDC-00516-0093-01
bottle of 100 tablets and NDC-00516-0093-10 bottle
of 1,000 tablets.

Storage: Store at Controlled Room Temperature
15-30° C. (59-86°F.)

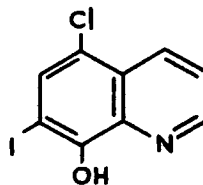
Caution: Federal law prohibits dispensing with-
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Mfg. for:
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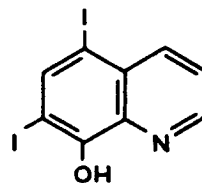
diiodohydroxyquin (introduced in 1936) are effective against organisms in the bowel lumen but not against trophozoites in the intestinal wall or extraintestinal tissues.

Chemistry

Three synthetic halogen-substituted 8-hydroxyquinolines have had extensive clinical use—chloriofon (8-hydroxy-7-iodoquinoline-5-sulfonic acid), iodochlorhydroxyquin (clioquinol) (5-chloro-8-hydroxy-7-iodoquinoline), and diiodohydroxyquin (iodoquinol) (8-hydroxy-5,7-diiodoquinoline). Iodochlorhydroxyquin contains approximately 40% iodine and 12% chlorine, and diiodohydroxyquin contains approximately 64% iodine.



Iodochlorhydroxyquin



Diiodohydroxyquin

Absorption, Metabolism, & Excretion

Knowledge is incomplete on the pharmacokinetics of the hydroxyquinolines. Iodochlorhydroxyquin is more readily absorbed than diiodohydroxyquin. Metabolic studies in humans using ^{14}C -iodochlorhydroxyquin indicated that maximal plasma concentrations were reached at 4 hours after administration of a single dose and then decreased, with an apparent half-life of between 11 and 14 hours. Approximately 25% of a single 750-mg oral dose was excreted in the urine over 72 hours. Use of radioactive iodochlorhydroxyquin in animals showed high uptake of the drug in visceral tissues.

The drugs may interfere with certain thyroid function tests by increasing protein-bound serum iodine levels, leading to a decrease in ^{131}I uptake.

Antiamoebic Effects

The mechanism of action of diiodohydroxyquin and iodochlorhydroxyquin against amebas is not known. Opinions vary on whether the drugs act only against trophozoites or against cysts as well.

Clinical Uses

A. Intestinal Amebiasis: Diiodohydroxyquin and iodochlorhydroxyquin are alternative drugs for the treatment of asymptomatic or mild to moderate intestinal amebiasis. However, until the question of the association of iodochlorhydroxyquin with the SMON syndrome is resolved, only diiodohydroxyquin should be used in therapy. The drugs are not effective in the initial treatment of severe intestinal disease but are used in the subsequent eradication of the infection. They are not effective against amebomas or extraintestinal forms of the disease, including hepatic amebiasis,

THE HALOGENATED HYDROXYQUINOLINES Diiodohydroxyquin (Iodoquinol), Iodochlorhydroxyquin (Clioquinol)

The halogenated hydroxyquinolines were among the first synthetic drugs active in amebiasis. Iodochlorhydroxyquin (introduced in 1931) and