

ROLE OF CONIUM MACULATUM IN THE PREVENTION OF IMMATURE CATARACT†

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ABSTRACT: The immature cataract of 43 patients was determined following the examination of lental opacity, defective vision, presence of iris shadow and fundal glow but interrupted by black spots and presence of all the purkinje images. All the patients were divided into different age groups. Conium maculatum (different homoeopathic potencies) was prescribed for different lengths of periods and the condition of the immature cataract was reinvestigated following the above mentioned tests, at the interval of 1 month and continued upto 4 months. The results at the end of 4 months showed a significant improvement in the condition of immature cataract and the fall of vision was improved remarkably. The present paper is mainly concerned regarding the probable role of Conium maculatum in the improvement of immature cataract.

INTRODUCTION

Conium maculatum mother tincture is made from entire fresh plant, Hemlock, which belongs to the family, umbelliferae. It is a very common and widely used homoeopathic medicine for a number of diseases including different pathological conditions of eyes. So far as information is available, the effects of Conium maculatum on the eyes are lacking except for a few clinical data. In the present experiments, the role of Conium maculatum on the immature cataract was investigated by adopting different types of reliable and universally accepted methods and simultaneously possible modes of action of the drug have been discussed.

MATERIALS AND METHODS

48 patients suffering from immature cataract of both male and female at the age of 30 to 80 years were selected. All the patients were divided into different age groups, such as group A (30 to 40 years), group B (41-50 years), group C (51-60 years), group D (61-70 years) and group E (71-80 years). The average body weight of all the patients of different age groups varied within a short range (± 5 kg) and all were free from any remarkable acute or chronic sufferings.

The methods used in the experiments were:

(a) *Lental opacity:* After proper dilatation of the pupil by application

† Abstract presented in the 66th session of Science Congress, Hyderabad, January, 1979.

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of 1% homatropin drops, light was thrown by a plane mirror from a distance on the dilated pupil and the opacity of the lens was observed as black spots.

(b) *Defective vision*: It was examined by recording the vision of an individual patient following Snellen's chart.

(c) *Iris shadow*: It was examined after throwing the light obliquely on the eye, and was confirmed on the basis of production of iris shadow between the opacity of the lens and pupillary margin of the iris.

(d) *Fundal glow*: The feeble illumination of an ophthalmoscope is reflected on the eyes obliquely from various points across the pupil from 10 to 12 inches away and the real opacity of the lens was identified on the appearance of black instead of grey when examining in this manner.

(e) *Purkinje image*: A light is reflected from the plane mirror and source of the eye of a little distance of the subject in a dark room. Three purkinje images were observed within the subject pupil.

Application of drug: Conium maculatum of different potencies were procured from Hahnemann Publishing Co. Private Ltd., (Calcutta). The day on which the patient was first examined was noted as the 1st day of experiment. The entire experimental period was counted for 120 days. The period and potencies of drug application were as follows: First 3 days (30 potency, one drop, once daily); from 24th and 26th days (200 potency, one drop, once daily); from 43rd and 44th days (1000 potency, one drop, once daily) and 75th and 76th days (10,000 potency, one drop, once daily) and the days which are not mentioned indicate the days without any treatment.

RESULTS

The improvement of defective vision following administration of Conium maculatum is seen in the Tables I, II, III, IV and V. It is also seen in the above tables that maximum number of patients and significant improvement were obtained in the age group D (60 to 70 years age). The patients of the rest of the groups (A, B, C and E) also showed to some extent remarkable improvement in the defective vision. The improvement of defective vision of all the patients of different age groups was accompanied by simultaneous changes of lental opacity, presence of iris shadow and fundal glow and presence of purkinje images towards normal.

DISCUSSION

Francois (1959), who discusses the use of the term 'cataract', following Nordman (1926), that a cataract is an opacity of the lens causing a reduction in visual function. Now, it is generally accepted that formation of senile cataract is a process superimposed upon the normal aging process and brought about by certain proved factors such as heredity and diabetes, and others. It has been established earlier that any type of cataract, senile or experimental, there causes an increase in proportion of insoluble protein (Pirie *et al.*, 1956). Mach (1963) and Francois *et al.* (1965) have compared the protein

content of the soluble fraction of normal and senile cataract by quite different analytical techniques (electrophoresis and gel filtration). They have shown that, as cataract proceeds, there is a preferential decrease in the proportion of the low molecular weight protein. Our unpublished data indicates treatment with *Conium maculatum* in cataract patients, certainly alter the proportion of protein moiety in cataract. However, defective vision as a result of cataract is one of the important and widely accepted alterations in the ocular physiology. From this point of view, the improvement of vision in cataract patient as shown in the Tables I, II, III, IV and V, after treatment with different potencies of *Conium maculatum* is an interesting finding. In the present experiment improvement of defective vision in cataract patients at the age groups of 61-70 years (Table IV) and 71-80 years (Table V), after treatment with *Conium maculatum*, might be due to its influence on protein metabolism of cataract. But, on the other hand, the improvement of vision in cataract patients at the age groups of 30-40 (Table II), gives more interesting data regarding its mode of action. Because, the cause of formation of cataract of the aged person (above 50 years) and the person at the age of 30-40 years may not be the same. The data, reported herein (Table I), clearly indicate that *Conium maculatum* definitely improves the fall of vision due

TABLE I: IMPROVEMENT OF VISION IN IMMATURE CATARACT AFTER TREATMENT WITH *CONIUM MACULATUM* AT THE INTERVAL OF 30 DAYS.

Age group A (30-40 years)

Age, years	1st day	30th day	60th day	90th day	120th day
32	6/24	6/24	6/18	6/12	6/12
37	6/24(P)	6/24	6/18(P)	6/18	6/18
39	6/12	6/12(P)	6/12(P)	6/9	6/6

(P) indicates partial vision.

TABLE II: IMPROVEMENT OF VISION IN IMMATURE CATARACT AFTER TREATMENT WITH *CONIUM MACULATUM* AT THE INTERVAL OF 30 DAYS.

Age group B (41-50 years)

Age, years	1st day	30th day	60th day	90th day	120th day
43	6/24	6/24	6/18(P)	6/18	6/18
46	6/24(P)	6/24	6/18(P)	6/18(P)	6/18(P)
48	6/36	6/36	6/24(P)	6/24	6/24
49	6/24(P)	6/24	6/24	6/24	6/24
50	6/36(P)	6/36	6/24(P)	6/24	6/24

(P) indicates partial vision.

TABLE III: IMPROVEMENT OF VISION IN IMMATURE CATARACT AFTER TREATMENT WITH CONIUM MACULATUM AT THE INTERVAL OF 30 DAYS.

Age group C (51-60 years)

Age, years	1st day	30th day	60th day	90th day	120th day
52	6/24(P)	6/24	6/24	6/18(P)	6/18
52	6/36(P)	6/36	6/24	6/18	6/18
55	6/36	6/36	6/24(P)	6/24	6/18
56	6/36	6/36	6/24(P)	6/24	6/24
56	6/24	6/24	6/24	6/18(P)	6/18(P)
58	6/24	6/24	6/18	6/18	6/18
58	6/24	6/24	6/24	6/24	6/24
58	6/36	6/36	6/36	6/24	6/24
59	6/36	6/36	6/24(P)	6/24	6/18
59	6/24	6/24	6/24	6/18(P)	6/18
60	6/60	6/60	6/36(P)	6/36	6/24
60	6/60	6/60	6/60	6/36(P)	6/36

(P) indicates partial vision.

TABLE IV: IMPROVEMENT OF VISION IN IMMATURE CATARACT AFTER TREATMENT WITH CONIUM MACULATUM AT THE INTERVAL OF 30 DAYS.

Age group D (61-70 years)

Age, years	1st day	30th day	60th day	90th day	120th day
61	6/36(P)	6/36(P)	6/36	6/24	6/24
61	6/36	6/36	6/24	6/24	6/24
62	6/36(P)	6/36	6/24	6/24	6/12
62	6/60	6/60	6/36	6/36	6/24
63	6/60	6/60	6/36	6/36	6/24
63	6/36	6/36	6/24	6/24	6/12
64	6/60	6/36(P)	6/36	6/24(P)	6/24
64	6/36	6/36(P)	6/24(P)	6/24	6/18
64	6/60	6/60	6/36(P)	6/36(P)	6/36
65	6/36(P)	6/36	6/36	6/24(P)	6/24
65	6/60(P)	6/60(P)	6/60	6/36	6/36
65	6/60	6/60	6/36	6/36(P)	6/36
66	6/36	6/36	6/24(P)	6/24	6/24
66	6/60(P)	6/60(P)	6/60	6/36	6/36
67	6/60(P)	6/60(P)	6/60	6/36(P)	6/36
68	6/60(P)	6/60	6/60	6/36	6/36
69	6/36	6/36	6/24(P)	6/24(P)	6/24
70	6/36	6/36	6/24(P)	6/24(P)	6/24
70	6/60(P)	6/60(P)	6/36(P)	6/36(P)	6/36

(P) indicates partial vision.

TABLE V: IMPROVEMENT OF VISION IN IMMATURE CATARACT AFTER TREATMENT WITH CONIUM MACULATUM AT THE INTERVAL OF 30 DAYS.

Age group E (71-80 years)

Age, years	1st day	30th day	60th day	90th day	120th day
72	6/60(P)	6/60(P)	6/60	6/60	6/36
72	6/60	6/60	6/60	6/60	6/60
73	6/60(P)	6/60	6/60	6/36	6/36
73	6/60(P)	6/36(P)	6/36(P)	6/36	6/36
76	6/60(P)	6/60(P)	6/36(P)	6/36	6/36
78	6/60(P)	6/60(P)	6/60(P)	6/60	6/60
78	6/60	6/60	6/60	6/60(P)	6/36
80	6/36(P)	6/36	6/36	6/24(P)	6/24

(P) indicates partial vision.

to cataract at the age of 30-40 years. On the basis of all the above evidences, at present it is not clear what is the probable mechanism of action of Conium maculatum in the improvement of vision in cataract patients. But the data of these experiments will encourage further work on this line to explore the precise mode of action of the drug.

REFERENCES

1. Francois, J.: *Les Cataractus Congenitales*, Masson et cie, Paris (1959).
2. Nordmann, J.: *Contribution à l'étude de la Cataract Acquise*, Thesis, Strasbourg (1926).
3. Pirie, A. and Van Heyningen, R.: *Biochemistry of the Eye*, Blackwell Scientific Publication, Oxford (1956).
4. Mach, H.: Untersuchungen von Lin Semeiweiss und Mikroelektrophorese von Wasserloslichem Eiweiss, *Acta Otol. Laryng. Klin. Mbl. Augenheik*, 143, pp. 689-710 (1963).
5. Francois, J., Rabacy, M. and Stockman's, L.: Gelfiltration of the Soluble Proteins From Normal and Cataractus Human Lenses, *Exp. Eye Res.*, 4, pp. 312-318 (1965).