

found (Litinsky, 1931; Perera, 1936); sometimes they appear to be anomalies of development, as remains of the hyaloid system (Koller 1901); sometimes apparently congenital cysts may be the result of a disease occurred during the foetal life. The lack of anatomic-pathological examinations has not yet established the nature of these formations which generally are symptomless. Most of them, whatever their origin may be, are transparent and more or less freely floating in the vitreous.

The posterior polar cataract is generally considered as a residual of the hyaloid canal and therefore belongs to the congenital anomalies; but it may be also a complicated cataract due to diseases of the retina, or of the choroid, during the intra- or extra-uterine life.

The aetiology of the primary pigmentary degeneration of the retina, usually but improperly called retinitis pigmentosa, is still obscure in many respects: the characteristics of heredity, the association with mono- or poly-glandular dystrophic syndromes, and the slow and progressive chronic course are in favour of the theory that the condition is an abiotrophic process. Other theories, based on anatomical and physiological data, consider the disease as a result of the sclerosis of the choroidal vessels, sometimes hereditary and abiotrophic in character (Sorsby 1939) with consequent disappearance of the choriocapillaries. Toxic causes, liver deficiency and avitaminosis have been also associated with pigmentary degeneration of the retina. Pathologically the degeneration of the neuro-epithelium affects principally the rods; an attenuation of the retinal vessels and a waxy-yellowish discoloration of the disc follow the pigmentary changes. The night-blindness is admittedly connected with the primary affection of the rods.

A posterior polar cataract of the complicated type is found in the advanced stage of the pigmentary degeneration of the retina; it is considered as the effect of the malnutrition of the lens due to accumulation in the vitreous of toxic products originated from the retinal and choroidal changes.

A case of primary pigmentary degeneration of the retina associated with posterior polar cataract in B.E. and a cyst in the posterior segment of the vitreous in L.E. is reported.

A male patient, aged 27 years. For some years he complained of progressive night-blindness. No important diseases in the previous history. Systemic examination showed quite good general condition; routine laboratory investigations were negative.

Ophthalmic examination:—

Vision B.E. = 6/9 no improvement with lenses.

Field of vision B.E.: Ring scotoma.

Media B.E.: Opacity on the posterior pole of the lens, like a small cone with the apex penetrating in the vitreous.

Fundus B.E.: Optic disc of waxy-yellowish colour, with ill-defined edges. Thin, thread-like vessels. The whole fundus had a yellowish-pink aspect with characteristic and scattered deposits of pigment of a spidery shape, resembling magnified bone corpuscles, mainly present in the equatorial zone.

In the L.E. on the nasal side of the fundus about $\frac{1}{2}$ D.D. medially to the disc a non-transparent cystic formation was seen: it was of oval shape with smooth surface, greenish-grey in colour; its greater diameter was longitudinal and the slenderer upper pole was apparently more close to the retinal surface; its dimension was $\frac{3}{4}$ D.D. The cyst was floating in the vitreous with very limited movements.

The association of the pigmentary degeneration of the retina with bilateral posterior polar cataract, and with a cyst in the vitreous gives rise to two different interpretations:

1. The cyst may be considered as an embryonic remain of the hyaloid circulation, and the polar posterior cataract may be attributed to the same origin.

2. The cyst and the cataract may result from the altered biochemistry of the vitreous and of the posterior capsule of the lens due to the changes in the retina and choroid.

The first hypothesis seems more probable but, whatever may be the connections between these various conditions, it is interesting to note in this case the association of a very likely congenital anomaly with a dystrophy which from its abiotrophic nature may also be congenital.

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SUICIDAL POISONING IN CALCUTTA

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SUICIDE or 'self-murder' is regarded by the law as murder, a murder committed by a person on himself or herself (*felo-de-se* or felony committed on one's self). The verdict usually given by the coroner and other competent authorities in such cases is 'Death is due to suicide, whilst temporarily insane'. This expression is regarded as a charitable addition to relieve the suicide and his family from the stigma attaching to this act.

Any person aiding or abetting suicide is also guilty of the charge of murder. An attempt to commit suicide is punishable under the law in India though in a less degree than an attempt to commit murder—a common misdemeanour.

Modes of suicide vary considerably according to local conditions, such as the presence of a river or lake, habits of the people, accessibility of weapons or fire-arms, poisons, etc. In India, the methods of self-destruction chiefly employed are: (1) drowning, (2) hanging, (3) poisoning, (4) burning, (5) shooting, (6) starving, (7) placing or throwing oneself on the railway lines, (8) falling or jumping from a precipice,

and (9) by inflicting wounds on the body such as stabbing on the region of the heart or cutting the throat.

Chiefly poisons are used as a means of suicide and certain poisons are used specially in certain areas and by certain classes. The intending suicide seems to be under the impression that all poisons kill without causing suffering.

Suicide in Calcutta

At the Calcutta Police Morgue, 2,139 post-mortem examinations were held on cadavers sent by the police from 12 police stations in Calcutta proper, during the period of four years (1942-45). Out of these 115 cases were found to have died from poisoning—as was determined from post-mortem findings and subsequent chemical examination of viscera. A glimpse of the year-to-year analysis of cases of poisoning detected at the Calcutta Police Morgue (recorded in table I) will give an idea as to the nature of poison used in Calcutta, its percentage and incidence.

TABLE II
Suicidal poisons, used in Calcutta, during 1942-45

Name of poison	Definitely suicidal	Probably suicidal	Total	Percentage
1. Acid carbolic ..	1	1	2	2.7
2. " nitric ..	1	0	1	1.4
3. " oxalic ..	0	1	1	1.4
4. " sulphuric ..	2	2	4	5.5
5. Arsenic ..	1	0	1	1.4
6. Barbiturate (alonal) ..	0	1	1	1.4
7. <i>Calotropis gigantea</i> (madar or akanda) ..	1	1	2	2.7
8. Copper sulphate ..	4	1	5	6.8
9. Hydrocyanic acid and cyanides ..	11	1	12	16.4
10. Morphine ..	1	0	1	1.4
11. Opium ..	23	19	42	57.5
12. Zinc chloride ..	1	0	1	1.4
	46	27	73	

TABLE I

Cases of poisoning detected at the Calcutta Police Morgue, and confirmed by the Chemical Examiner to the Government of Bengal during the period 1942-45

Name of poison	1942	1943	1944	1945	Total	Percentage
1. Acid carbolic ..	1	0	1	0	2	1.7
2. " nitric ..	0	1	1	0	2	1.7
3. " oxalic ..	1	0	0	0	1	0.87
4. " sulphuric ..	2	0	2	2	6	5.2
5. Aconite ..	1	0	0	1	2	1.7
6. Alcohol ..	2	6	3	3	14	12.2
7. Arsenic ..	0	0	1	1	2	1.7
8. Atropine (as datura) ..	1	2	1	2	6	5.2
9. Barbiturate ..	1	0	1	0	2	1.7
10. Carbon dioxide and monoxide ..	0	0	2	0	2	1.7
11. Carbon monoxide ..	1	0	1	0	2	1.7
12. <i>Calotropis gigantea</i> (madar or akanda) ..	0	1	0	1	2	1.7
13. <i>Cannabis sativa</i> (bhang) ..	0	1	0	0	1	0.87
14. Copper sulphate ..	1	1	1	2	5	4.3
15. Cresol ..	0	0	1	0	1	0.87
16. Hydrocyanic acid and cyanides ..	2	4	3	4	13	11.3
17. Morphine ..	0	0	1	0	1	0.87
18. Opium ..	12	11	11	14	48	41.7
19. Phosphorus ..	0	1	0	0	1	0.87
20. Scorpion bite ..	1	0	0	0	1	0.87
21. Zinc chloride ..	0	0	0	1	1	0.87
	26	28	30	31	115	

Coroner's inquest was held on all these cases at the Calcutta Coroner's Court. Out of 115 cases of poisoning, 73 were found suicidal (46 definitely suicidal and 27 probably suicidal), only one was homicidal and the remaining 41 were either accidental or probably accidental.

An idea about the nature of poison used for suicidal purpose in this series of cases may be obtained from table II.

Suicidal poisoning with relation to sex

Taking all the methods of suicide together into consideration in the literature, it is found that commission of suicide is more common among females than among males. But in the Calcutta series of cases of suicidal poisoning, it is two and a half times more common among males than among females as can be seen from table III.

TABLE III
Suicidal poisoning tabulated according to sex

Sex	Definitely suicidal	Probably suicidal	Total	Percentage
Male ..	30	22	52	71.2
Female ..	16	5	21	28.8
	46	27	73	

Another peculiar thing to note in this connection is that in some of the females who committed suicide, evidence of menstruation at the time of death was noticed on examination of their genital organs. This corroborates the prevalent belief that during the menstrual period, certain females, specially those of neurotic type, get some disturbances in their mental equilibrium which make them inclined to commit suicide.

Suicidal poisoning with relation to community

Suicide is not at all common among the Muslim, Indian Christian and Anglo-Indian communities. But it is prevalent amongst the Hindu community. The reason is not properly understood as suicide is condemned by all religions. This communal differentiation is shown in table IV.

TABLE IV
Suicidal poisoning tabulated according to community

Community	Definitely suicidal	Probably suicidal	Total	Percentage
Hindu	45	25	70	95.9
Muslim	1	0	1	1.4
Indian Christian.	1	0	1	1.4
Anglo-Indian.	1	0	1	1.4
	48	25	73	

Suicidal poisoning with relationship to age group

Taking all the modes of suicide together into consideration, suicide is more common among

TABLE V
Suicidal poisoning tabulated according to age groups

Age group, years	Definitely suicidal	Probably suicidal	Total	Percentage
Up to 10	0.0
11-20 ..	9	5	14	19.2
21-30 ..	26	11	37	50.7
31-40 ..	7	6	13	17.8
41-50 ..	3	4	7	9.6
51-60 ..	1	1	2	2.7

adults usually between the ages of 16 and 50. It is very rare among children and old people above 50 years. In the series of cases of death from suicidal poisoning, highest incidence (50.7 per cent) was seen in the years 21 to 30, no case amongst children before 10 years and the least (2.7 per cent) in people above 50 years. Table V gives the incidence of suicidal poisoning in different age groups.

The poison selected for committing suicide

1. *Opium and morphine.*—Opium is the drug of choice. This drug is easily obtainable everywhere in India and death occurs easily without any physical suffering, opium poisoning is fairly common in the Punjab and in Bengal. Nearly 35 to 40 per cent cases of fatal poisoning in Bengal investigated by the Chemical Examiner were due to opium; in the Punjab the percentage of such cases is found to be 40 to 42 per cent. In this series 57.5 per cent cases of fatal poisoning were due to opium. Suicide by morphine is comparatively rare in India. Table II will show that there was only one case of suicide by morphine as against 42 cases by opium.

It is stated that suicides usually mix opium with mustard oil or asafoetida in the belief that these substances increase its absorptive power but there is no foundation about this belief. However, it is true that mustard oil makes it difficult to be eliminated even by washing out the stomach. It is also believed that alcohol hastens the action of opium, but it does not do so in all cases. Curiously enough mustard oil or asafoetida was not found mixed with opium in any of this series of cases, but in 5 cases alcohol was found with opium by the Chemical Examiner.

2. *Hydrocyanic acid and cyanides.*—This group occupies the second place in the list of suicidal poisons (16.4 per cent). Cyanide poisoning is common in England and other European countries. Of late years, however in India too, it has been more commonly used than before for committing suicide by young educated persons especially in big towns and cities. This group of poisons is preferred now for their swift and sure action. Cases are reported where the victims expire even before they put the poison-cups on the table.

Hydrocyanic acid is a very powerful poison but it is not accessible to all. Cyanides of sodium and potassium are also highly poisonous but are at the same time easily accessible on account of their extensive use in various industries. The toxic action of potassium cyanide depends largely upon the hydrochloric acid of the stomach. It is reported that Rasputin was saved from sure death from cyanide poisoning, owing to his having alcoholic gastritis wherein achlorhydria is a feature.

Alkali cyanides, if exposed to air, are readily converted into carbonates by the action of CO₂ and moisture of air. Old samples of these

cyanides may, therefore, contain quite a considerable amount of carbonates and only a small amount of cyanides. Hence suicidal attempts by taking large doses of such cyanides have known to be unsuccessful.

3. *Copper sulphate*.—Fatal cases of copper poisoning frequently occur in Bengal and also in other parts of India. They are mostly suicidal or accidental and rarely homicidal. Sometimes copper sulphate is also taken as an abortifacient drug but the woman dies usually of copper poisoning 3 or 4 days after the miscarriage. Copper sulphate is selected by females generally for committing suicide. All the 5 cases of copper sulphate poisoning in this series were females.

4. *Calotropis gigantea or madar*.—*Calotropis* is known in this country from ancient times for its medicinal and other properties. It is known as 'akanda' in Bengal. Madar-juice is occasionally used for the purpose of suicide, but it is more commonly used by mouth or locally as a paste to be placed at one end of an abortion-stick for procuring abortion. The small stems are often used as abortion-sticks which are inserted into the os uteri. Sometimes young females develop amenorrhœa due to other causes, but they fear that they have conceived. They take this poison with an intent to cause abortion.

History of one case of poisoning from madar in this series is that the deceased, a Hindu married woman aged about 25 years, had no child. She left her husband's protection due to ill-treatment and lived as a mistress elsewhere. She complained of pain in the abdomen associated with fever and expired later on. On autopsy, uterine cavity was found to contain a little blood and right ovary a blood clot. Report of the Chemical Examiner showed the presence of *Calotropis gigantea* but pathological section showed no sign of conception.

5. *Sulphuric acid* is very largely used commercially in several trades. Hence it is easily obtainable and may sometimes be taken for suicidal purposes. Most cases of sulphuric acid poisoning in the East are suicidal especially among adult women. Three out of 4 cases of sulphuric acid poisoning in this series were females.

6. *Nitric acid* is very largely employed in art and manufacture. Cases of poisoning are not very common. In this series there is only one such case of poisoning.

7. *Oxalic acid*.—During recent years, cases of suicide by oxalic acid poisoning, although very few, have occurred in India, due to its increased use as a remover of stains on clothes and the ease with which it can be obtained at a druggist's shop.

8. *Carbolic acid*.—Being easily procurable it is one of the common poisons used for suicidal purpose. Two such cases were found in this series.

9. *Arsenic*.—The fatal cases of arsenic poisoning are mostly homicidal. This is used

occasionally for suicidal purposes, but owing to much pain caused by its ingestion, suicides resort to this poison much less frequently than to opium. The only case in this series was a Hindu female aged about 20 years. She gave a statement that she had a quarrel with her husband and in fury took 'rough on rat' a poison containing arsenic.

10. *Barbiturate* (alonal) is sometimes taken for suicidal purpose. The only case in our series, an elderly Anglo-Indian female aged about 50 years, was found dead in her room, the door being bolted from inside. On opening the room, one phial of carbolic acid and 5 phials of alonal were found.

11. *Zinc chloride*.—Deceased, a Hindu male aged about 23 years, a dealer in vegetables, made a statement that he was implicated in a theft case, took the poison and went to Mayo Hospital.

Poisoning by zinc salts is very rare. Zinc chloride has been used suicidally, but rarely for homicidal purposes.

Motives of suicide

Motives for committing suicide are determined from personal statements of the victims before death, from letters left by some of them or from coroner's inquest into the causes of death. But in the majority of the cases under review, no cause has been found even after thorough investigation of these cases. In some of the cases where letters have been left, no clue has been found except the information that nobody was responsible for the victim's death, or that he was leaving his relatives for ever, or that he did not like to disclose his motive for certain reasons.

The motives that were found fall under the following heads :—

1. *Domestic troubles and worries*.—11 cases.

(a) *Quarrel between the wife and the husband or his relatives* (9 cases).—In one of our cases, both husband and wife took opium due to some quarrel in the family; the husband died, but the wife survived in the hospital. In another case, the husband rebuked his wife for not doing the household work properly—this led her to commit suicide; in still another case, wife left husband's protection due to ill-treatment and subsequently committed suicide.

(b) *Quarrel with other people* (2 cases).—In one of our cases an unmarried girl aged about 16 years committed suicide by taking strong nitric acid after a quarrel with her cousin. In another case the victim had a quarrel with his master who ill-treated him for a long time.

2. *Poverty and financial difficulties* (5 cases).—In one of our cases, the victim lost money at the races and was indebted, so he committed suicide by taking hydrocyanic acid. Two others were unemployed, and still another, being driven away by his master for some skin disease, could not get any other job and the fifth one, a homeless person, was suffering from

fever. For all these financial difficulties they committed suicide.

3. *Remorse and shame (2 cases).*—Both the cases have got the same story; they were prosecuted in the Magistrates' Courts on charges of theft and for this they put an end to their lives.

4. *Incurable and painful disease (5 cases).*—One of this series of cases was suffering from paralysis for a long time and had hysteric fits off and on; another was suffering from bubo; third one from leucoderma and the remaining two from chronic fevers.

N.B.—In 15 cases of this series, letters or pocket books were left intimating that they died of their own accord, but they did not disclose

their reasons for the same. In 34 cases, no causes of suicide could be determined. They were diagnosed as cases of suicide from information supplied by relatives and neighbours of the victims and by coroner's inquest.

ERRATUM

SEROLOGICAL TECHNIQUE

By S. D. S. GREVAL

and

A. B. ROY CHOWDHURY

Page 355, column 1, paragraph 4. Instead of 'Serum o comes from sub-group AB' read 'Serum o comes from group AB'.

A Mirror of Hospital Practice

A CASE OF CARCINOMA OF THE COLON WITH AMÆBIC INFECTION

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IN the diagnosis of tropical diseases the laboratory findings are often of greater importance than in that of non-tropical diseases, but great care must be taken that one's clinical judgment is not outweighed by laboratory findings which may be as misleading in some cases as they may be useful in others. In this connection, the following case report will be of interest.

Case report

A man, aged 60 years, was admitted to the Carmichael Hospital for Tropical Diseases on 1st April, 1946, for dysentery. The history was that he was not keeping well for the past six months during which he had been suffering from 'dyspepsia' (constipation and flatulence being the main symptoms) with occasional bouts of fever, and had lost about four stones in weight. The dysenteric symptoms—frequent loose motions with passage of mucus and occasionally blood—were of six weeks' duration. He had been given a course of emetine injections as well as sulphaguanidine but with little or no effect.

On admission he appeared prostrated. The liver was enlarged one inch below the costal margin with normal consistency. A small ill-defined somewhat irregular mass was palpable in the left hypochondrium which could be easily pushed under the costal margin like a palpable spleen. The abdomen was soft, and there was no tenderness. Digital examination of the rectum showed no abnormality.

Laboratory findings.—The blood examination showed a white cell count of 9,100 per c.mm. The red cells were 4.2 million per c.mm. and hemoglobin was 8.8 gm. (64 per cent). Stools: *E. histolytica* trophozoites were

found once in a serial examination for four consecutive days. The test for occult blood was positive. Gastric analysis showed a low acid curve.

X-ray examination.—A barium meal series were taken and the radiologist's opinion was 'colitis and appendicitis'. But there were certain other peculiarities which could be distinguished: The ten-hour picture (see figure 1, plate XXIV) showed a distended transverse colon with horizontal fluid level of the meal. The 24-hour picture (see figure 2, plate XXIV) revealed a segment of 'defective filling' beyond the distended transverse colon while the meal had passed distal to this segment into the large gut of more or less normal calibre. After 48 hours an irregular residual shadow of the meal was seen held up in the segment where there was the 'filling defect' (see figure 3, plate XXIV).

Diagnosis.—Considering the age of the patient, the history of the case, the clinical findings and the unusual radiological findings, we suspected a neoplastic condition of the transverse colon and transferred the patient to the Medical College Hospital where he was operated on by Major Andreasen. The tumour was found to be cancer involving a segment of the transverse colon and was adherent to the stomach wall. It was removed along with a portion of the stomach. Histologically the tumour was found to be adenocarcinoma of the colon.

The patient died of congestive cardiac failure a few days after the operation.

Discussion.—The case is of considerable interest as it presented the combined features of amœbic infection and cancer of the large bowel. In the practice of tropical medicine it is common to encounter multiple infections in the same patient, and it is therefore not always safe to attempt and trace all the signs and symptoms to a single infection or pathological process. A diagnosis of 'amœboma' of the colon might have explained practically all the features of this case, but the history of the case and of failure to respond to emetine injections led us to think of a neoplastic condition. The case also illustrates the fact how the true diagnosis may be missed if one depends only on