Statistical Observations on General Paralysis.

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THERE is a fairly general opinion amongst those engaged in asylum work that the classical type of general paralysis is less frequently met with relatively than formerly. This may be due partly to an increased number of so-called atypical cases, and possibly also to cases now being diagnosed as general paralysis, either *ante* or *post mortem*, which were not formerly looked upon as such. With a view to finding out the frequency of the chief phenomena of the disease as it is now met with in asylum practice, the following data, both pathological and clinical, have been compiled. The cases examined were (1) all the male cases admitted to the West Riding Asylum, Wakefield, from January 1st, 1896, to December 31st, 1902; (2) all the male cases admitted to the London County Asylum, Horton, Epsom, from its opening in the early part of 1902 to March 31st, 1905; and (3) all the female deaths at Horton.

Pathologically, observations were confined to four points, *viz.*, the frequency of subdural false membrane formation, of cortical erosions on stripping the pia-arachnoid, of granularity of the ventricular ependyma, and of disease of the basal vessels visible to the naked eye.

Autopsies were made on 131 consecutive male paralytics at Wakefield in the above period with the following result:

Subdural false membrane	. .	43 or 30·5 *per cent.*
Cortical erosion	. . .	73 or 55·7 „
Granularity of ependyma	. .	115 or 87·8 „
Diseased basal vessels	. .	70 or 53·2 „

The percentage of cases showing false membrane formation of the dura is surprisingly high, though it has always been admitted that general paralysis is associated with this condition more frequently than any other form of insanity. Bevan Lewis (1) gives 12 *per cent.* in 242 cases. I have included all cases with even slight rusty staining in the above category.

Adhesion of the pia-arachnoid with erosion of the cortex on stripping has long been regarded by many as the chief dis-

https://doi.org/10.1192/bjp.51.214.581 Published online by Cambridge University Press

tinguishing pathological feature of general paralysis. Thus, in two well-known text-books, those of Osler (2) and Coats (3), it is stated the pia-mater tears the cortex on removal, leaving the reader to suppose this always happens. Clouston (4) gives the same impression. Lewis (5), in 241 cases, gives 77 *per cent.*, and Simpson (6), in 95 cases, 66 *per cent.* Lewis' observations were made a good many years ago, Simpson's published in 1899. In the cases I have recorded in the majority of instances the membranes were removed from the entire cortical area, but in some from only the left frontal and parietal. Consequently some few may have been overlooked.

It may, however, be safely asserted that 40 *per cent.* of cases show no cortical erosion. At the same time, there are a number of cases where the membranes adhere more closely to the cortex than in the normal state, though not tearing it on removal.

Granularity of the ependyma of the ventricles, especially the fourth, is so constant as to be, in my opinion, the most valuable *post-mortem* diagnostic sign in the majority of cases. It was present in 90 *per cent.* of 112 *post mortems* on male paralytics at Horton and in 100 *per cent.* of 19 female cases. Simpson (7) gives only 30 *per cent.* as showing this condition in the fourth ventricle, but probably has only mentioned those in whom it was of the marked, frosted-glass appearance.

Disease of the basal vessels occurred in practically the same percentage in Simpson's statistics as in the above.

The duration of the disease after admission to the asylum was investigated, 160 consecutive male deaths at Wakefield being taken. The average duration was found to be 13·9 months. At Newcastle City Asylum in 1900 I found the average duration of all cases admitted there in 35 years to be 18 months. The question arises how long the patients are affected prior to admission. Some few of the above were admitted in a fairly advanced state, but it will be observed that to bring the total period of the disease up to 2 years, it must be assumed it existed on an average for over 10 months prior to admission. Raencke, in 136 cases, found the duration 2½ years; Sprengler, in 337 cases, 2½ years in men, 3½ in women (8). My statistics refer to men only. They seem to warrant the conclusion that the duration of the disease is diminishing.

The age on admission appears to vary little. Of 202 male

https://doi.org/10.1192/bjp.51.214.581 Published online by Cambridge University Press

cases admitted to Wakefield in 7 years, 40·6 years proved to be the average, and of 195 males at Horton 40·4 years. Of the females only the 19 cases who died were taken, 39·9 years being their average admission age.

The greater relative frequency of the disease amongst the married is well shown by the statistics of the Horton cases, *viz.*:

Married.		Single.		Widowed.
137	.....	43	.....	13

Thus 77 *per cent.* were married or widowed. Six, however, of the 19 females were single.

The relatively superior nature of the occupations of the males is also evident. Only 15 *per cent.* are classified as "labourers," whereas, taking for example all the admissions, including paralytics, for 1903 at Horton, 21 *per cent.* are "labourers." Most of the men had occupations involving a considerable amount of brain work.

As regards the mental state, I have classified the Horton cases as follows:

Those with grandiose delusions or excess of *bien-être* at any stage of the disease .	101 or 52	*per cent.*
Those who exhibited simply a progressive dementia	59 or 30	„
Those who were melancholic and never had any excess of *bien-être*	33 or 17	„
Two cases died with acute mania without excess of *bien-être* being shown . .	2 or 1	„

Of the 19 females, 6 were grandiose, 9 simply demented, 4 melancholic.

Several cases were not grandiose on admission, some even melancholic, who afterwards became grandiose. All these are included in the first category. At Wakefield only 92, or 45 *per cent.*, of 202 consecutive male cases had excess of *bien-être*, the mental state on admission only being considered. Suicidal tendencies are by no means rare; 14, or 7 *per cent.*, of the 195 Horton cases were so; 48, or 25 *per cent.*, had hallucinations.

There is one source of fallacy here which must not be overlooked. Some cases are admitted well on in the disease, only exhibiting profound dementia. A certain number of these may have been grandiose or melancholic previously. Their number in the above list must, however, be very small.

From the above figures one must conclude that in the modern

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type of case an undue sense of well-being is still present in at least half the cases. Clouston ([9]) states that nearly one third are non-delusional in men and the majority in women. He, however, states that only 3 or 4 *per cent.* are melancholic. The melancholic type must, I think, be held to be on the increase.

The physical signs of the Wakefield cases were investigated in regard to oculomotor abnormalities, slurring of speech, and state of knee-jerks on admission. The results out of 202 cases were as follows:

Pupils unequal	91	or 45	*per cent.*
„ equal	100	or 50	„
„ not recorded	11	or 5	„
„ fixed to light (one or both)	62	or 31	„
„ sluggish	96	or 47	„
„ normal	40	or 20	„
„ not recorded	4	or 2	„
Slurring of speech	159	or 79	„
Speech clear	33	or 16	„
Not recorded	10	or 5	„
Knee-jerks normal	39	or 19	„
„ absent	40	or 20	„
„ increased	95	or 47	„
„ diminished	25	or 12	„
„ not recorded	3 say	2	„

Where a difference is recorded in the right and left knee-jerks I have taken the one which appeared to show the greater abnormality.

The statistics in regard to pupillary reactions and state of knee-jerks correspond largely with those of Lewis ([10]).

From the above the following conclusions in regard to general paralysis as now met with are drawn:

Pathologically—(1) Subdural false membrane formation, including rusty staining, is met with in at least a quarter of the cases. (2) The pia-arachnoid usually adheres to the cortex more firmly than normal, but erosions on stripping are absent in 40 *per cent.* (3) Granularity of the ependyma of the fourth ventricle is so constant as to be the main *post-mortem* diagnostic feature of the disease.

Clinically—(1) The average age on admission to asylum is about 40 years. (2) The average intra-asylum duration of the disease is about 14 months, and is shorter than formerly.

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(3) The disease is relatively still much more common in the married or widowed. (4) The occupation of the males is usually a relatively superior one. (5) Undue sense of well-being is present in a small majority of the male cases, but is less common than formerly in cases diagnosed as general paralysis. (6) Melancholia, delusions of persecution, and suicidal tendencies, are more common. (7) Eighty *per cent.* of the cases on admission to asylum show oculo-motor abnormalities, or slurring of speech, or abnormal reflexes.

(1) *Text-Book of Mental Diseases*, p. 492.—(2) *Principles and Practice of Medicine*, p. 961.—(3) *Manual of Pathology*, p. 760.—(4) *Mental Diseases*, p. 409.—(5) *Text-book of Mental Diseases*, p. 496.—(6) *Pathological Statistics of Insanity*, p. 57.—(7) *Pathological Statistics of Insanity*, p. 59.—(8) *Journal of Mental Science*, July, 1902.—(9) *Mental Diseases*, p. 393.—(10) *Text-book of Mental Diseases*, p. 309.

Clinical Notes and Cases.

General Antisepsis in the Treatment of Neuropsychosis.

By EDWARD BLAKE, M.D.

CASE I.—*Stuporous Insanity stereotyped by Staphylotoxin.*

NEARLY three years ago, I was requested to see Mrs. L— at one of the London Asylums.

Briefly the history of the case was as follows :

Mrs. F. A. L—, æt. 28, a healthy woman of fair complexion, and lethargic as to temperament, having no record of mania in the family, was confined of her first child on March 17th, 1902 ; she soon developed symptoms of puerperal mania, and, having suicidal as well as homicidal impulses, at the same time declining her food, she had to be placed in an asylum on April 21st. Here she improved to a certain extent, but drifted into a condition which had been called "melancholia," but which would be better described as Stuporous Insanity. Profoundly apathetic, she took no interest in anything; she suffered too from "phantom tumour" (paresis of right vagus) and voided both bladder and bowel into her bed. Since the birth of her child the catamenia had not been re-established.

I first saw her on September 29th, 1902. She was then covered with pustules. These were evidently the result of nail-inoculation from *Seborrhœa capitis*. For on curing the scalp-eczema, and keeping her nails aseptic, the pustules soon departed. A source of self-poisoning

https://doi.org/10.1192/bjp.51.214.581 Published online by Cambridge University Press