KORSAKOFF’S PSYCHOSIS IN SCOTLAND: EVIDENCE FOR INCREASED PREVALENCE AND REGIONAL VARIATION

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Abstract—Surveys of new long-stay mental hospital patients in Scotland find that 9% have a diagnosis of alcohol-related brain damage, mainly Korsakoff’s psychosis (KP), whereas the rate was 5% in the old long-stay patients. The national hospital database shows a rise in rates of KP in figures for discharge diagnosis and for diagnosis of hospital residents during the past three decades. There is an argument for more specialized provision given the significance of this group of patients.

INTRODUCTION

Korsakoff’s psychosis (KP) is a growing problem in Scotland. This paper is based on an analysis of data from the Scottish Mental Hospital Records system (SMR 4 system) plus some older data extracted from McCreadie’s surveys of old long-stay and new long-stay patients in Scottish psychiatric hospitals in the 1980s (McCreadie et al., 1983, 1991). The demography of this condition in Scotland is compared to data from the classic monograph of Victor et al. (1989). The Wernicke–Korsakoff syndrome (WKS) was brought together as an entity by these American neurologists/neuropathologists in the early 1970s based on their studies of the previous two decades. They looked at a consecutive case series within key sites in North America and followed cases up to post mortem when they could correlate post-mortem findings with clinical signs.

They were particularly interested in KP as an outcome of the syndrome and studied people in mental hospitals who were already had a disorder of memory within their delirium recognized as a KP amnestic state. The neurological abnormalities, such as ophthalmoplegia or ataxia, could be reversed with vitamin therapy, but once established the KP amnestic syndrome appeared resistant to vitamin supplements.

The outcome of the amnestic state in those patients presenting with WKS who survived and were followed-up showed that there was no recovery in 26%, only a slight recovery in the memory deficit in 28%, a significant recovery in 25%, and a complete recovery in 21%. On the estimates of Victor et al. (1989), roughly one-third could recover functionally to the point where they could live independently, although that did not mean without supervision.

The worldwide literature on WKS yields variable prevalences and incidences. Examples include 48/100 000 population point prevalence reported in the Hague (Blansjaar et al., 1987) and 6.5/100 000 adult population annual incidence in Queensland, Australia (Price, 1985). Victor et al. (1989) thought that 3% of all neurological disorders in their practice were WKS-related and that the diagnosis represented 0.13% of all admissions to a general medical service in a Boston hospital.

METHODS

National trends

In a recent study, we used data collated by the Information and Statistics Division of the Scottish Home and Health Department; the basis of which is the SMR 4 form completed on admission to discharge from, or death in, a Scottish mental hospital. There are problems in using these data, as numbers may be misrepresented by under-reporting or lack of knowledge in filling out the forms. There is evidence that SMR 4 data have a reasonable reliability for some conditions albeit with limitations (McGonigal et al., 1992). A cross check at two time points with the McCreadie data found 80–90% of cases in common, with more cases recorded in the McCreadie figures than in the Scottish Office data. (A preliminary report by one of our nurses in Glasgow in 1998 found approximately 80 cases of KP in Glasgow mental hospitals while the SMR system reported 50.) It is likely that the SMR data under-represent the numbers with this condition.

KP as described in ICD-9 is now renamed alcohol amnestic syndrome in ICD-10. The ICD-9 codings we analysed included those with non-alcoholic KP, which we were surprised to find frequently reported in the SMR data given that this is a very rare diagnosis around which there is considerable controversy. The neuropsychological world literature yields descriptions of five or six cases at most. Some consider that, to have an established case of KP, there needs to be an interplay between alcohol and thiamine deficiency (Lishman, 1999).

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1990). Others would argue that repeated episodes of thiamine deficiency on their own might lead to KP and that alcohol dependency is the common association for such episodes (Joyce, 1994).

RESULTS AND DISCUSSION

Diagnoses and admissions

We surveyed the number of patients with the diagnoses of KP of alcoholic origin, KP of non-alcoholic origin, and other alcohol dementias who were resident in Scottish mental hospitals on 31 December 1995. We then compared these figures with those of previous years on the same date starting in 1970 and reviewing at 5-yearly intervals (Fig. 1). The number resident in hospital over the past 25 years increased until a slight decline in recent years. This is against a backdrop of de-institutionalization: closing mental hospitals, placing people in the community and discharging them into social services care.

Annual admissions to the mental hospital system give a slightly different picture (Fig. 2). They seem to have peaked in 1980 before dropping throughout the 1980s, then rising again in the 5 years to 1995. This recent increase is shown in more detail in a study in one locale where the authors looked year-by-year at patients presenting to the general hospital, psychiatric hospital, and community psychiatric nursing service of the east sector of Glasgow (Ramaya and Jauhar, 1997). We have also examined data from the SMR1 system, which documents admissions to and discharges from general hospitals. The totals for discharges for the three diagnoses of interest (KP, alcoholic; KP, non-alcoholic; alcoholic dementia) were 80 cases in 1980, 107 in 1985, 140 in 1990, and 271 in 1995. Again this shows a sustained increase.

Regional variations

Rates of mental hospital residents with KP vary by region (Table 1). The highest rate was in Argyll and Clyde. Glasgow came a close second, suggesting higher rates in the west of Scotland than elsewhere. One explanation might be that elsewhere in Scotland there is better community provision and a decreased likelihood of being admitted to hospital. Another explanation might be a higher prevalence of alcohol dependence in the west of Scotland. Using alcoholic liver disease mortality as a proxy for rates of alcohol dependence, we found support for this explanation: for one year (1982), the correlation coefficient across regions of KP rates with deaths from alcoholic liver disease was 0.72. It is likely, then, that higher rates of KP in the west of Scotland reflect higher rates of alcohol dependence.

Effect of age, gender, and social status

Looking at resident, rather than incidence, data, compared to the study by Victor et al. (1989), we found a population which has a very similar pattern of age on admission and age on presentation extending into the eighth decade (data not shown). There was a trend towards women presenting at a younger age within this data set and the peak presentation of women was in their 40s and 50s, compared to more in their 60s for men. Patients admitted in 1995 and subsequently discharged were, according to SMR data, more likely to be married (about one-third of those discharged) than those who remained (only one-fifth of whom were married).

The marital status of these patients may be linked to their likelihood of being institutionalized and many of them appear

Table 1. Prevalence of alcohol-related brain damage in Scotland

<table>
<thead>
<tr>
<th>Region</th>
<th>Prevalence (per 100 000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argyll and Clyde</td>
<td>10</td>
</tr>
<tr>
<td>Ayr and Arran</td>
<td>2</td>
</tr>
<tr>
<td>Borders</td>
<td>1.9</td>
</tr>
<tr>
<td>Dumfries and Galloway</td>
<td>2.7</td>
</tr>
<tr>
<td>Fife</td>
<td>1.9</td>
</tr>
<tr>
<td>Forth Valley</td>
<td>3.3</td>
</tr>
<tr>
<td>Grampian</td>
<td>2.8</td>
</tr>
<tr>
<td>Greater Glasgow</td>
<td>7</td>
</tr>
<tr>
<td>Highland</td>
<td>3.9</td>
</tr>
<tr>
<td>Lanark</td>
<td>3.2</td>
</tr>
<tr>
<td>Lothian</td>
<td>4.5</td>
</tr>
<tr>
<td>Orkney</td>
<td>0</td>
</tr>
<tr>
<td>Shetland</td>
<td>1.8</td>
</tr>
<tr>
<td>Tayside</td>
<td>5</td>
</tr>
<tr>
<td>Western Isles</td>
<td>0.3</td>
</tr>
<tr>
<td>Scotland</td>
<td>3.5</td>
</tr>
</tbody>
</table>

Based on SMR 4 data by Health Board Region, 1995.
to have had a marital breakdown, divorce or to have been single prior to admission.

The sex ratio of the resident population in 1995 of 2.6:1, M : F was higher than that reported by Victor et al. (1989). Whether there is a bias for women to be protected from being institutionalized with this condition, or whether men are more likely to have this condition in Scotland, compared to North America, is difficult to ascertain from the current data.

Interestingly, women are more likely to recover. If we consider a previous analysis of these data (Smith and McColl, 1992), where recovery was taken to be subsequent discharge back into the community, a diagnosis of alcoholic dementia, being female, and having a younger age of onset made recovery more likely. We also found that patients in urban areas were more likely to be male and to have presented at a younger age, than in rural or mixed rural–urban areas. Could this just be an accumulation of patients living longer in the security of a hospital setting with a steady increase in numbers over the years? The admission data would argue against that, and if we look at the people resident at the end of 1995, the majority were admitted in that year or in the year before, and almost all of the remainder in the preceding 5 years.

GENERAL CONCLUSIONS

We have been considering recent cases resident in a diminishing mental hospital population. In the 1980s in Scotland McCreadie et al. (1991) noted an increased proportion of patients with a diagnosis of alcohol-related brain damage in the new long-stay population. This group had been hospitalized between 1 and 6 years. The diagnosis was present in one in nine cases of new long-stay patients and in only one in 22 cases of old long-stay patients. Thus, people who were remaining in the psychiatric system were more likely to have an alcohol-related brain damage diagnosis, compared to a decade or so earlier. The evidence presented here of the increasing number of people with KP suggests there may be an unmet service need. The numbers are significant enough in Scotland to justify the provision of specialized rehabilitation units in areas of high prevalence.

REFERENCES


