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Patterns of clinical use of antipsychotics in hospitalized psychiatric patients

Massimo C. Mauri *, Francesca Regispani, Scilla Beraldo, Lucia S. Volonteri, Veronica M. Ferrari, Alessio Fiorentini, Giordano Invernizzi

Clinical Psychiatry, Clinical Neuropsychopharmacology Unit, Ospedale Maggiore Policlinico IRCCS, Via Sforza 35, 20122, Milan, Italy

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Abstract

The ways of using antipsychotic drugs have greatly changed over the last 10 years. The aim of this study was to evaluate such changes in psychiatric patients admitted to the Psychiatric Department of Milan's Ospedale Maggiore in 1989 ($n=350$), 1999 ($n=718$) and 2002 ($n=628$). The medical records of the hospitalized patients were evaluated by analyzing the anamnestic and clinical data with particular reference to age, gender, diagnosis and medication use. In 2002, atypical antipsychotics were more frequently prescribed as monotherapy upon discharge than typical antipsychotics (32.64% vs. 30.10%). Combinations of two or more antipsychotic drugs were prescribed upon discharge for 20.63% of the patients in 1989, 31.24% in 1999 and 23.09% in 2002. The combinations of one typical and one atypical drug increased from 4.04% in 1999 to 13.06% in 2002. The mean (±S.D.) daily antipsychotic drug dose (expressed in chlorpromazine equivalents) was significantly higher in 2002 than in 1999 and 1989. The results of this study confirm the trend to use combinations of one typical and one atypical antipsychotic, and higher doses.

Keywords: Atypical antipsychotics; Classical neuroleptics; Clinical practice; Hospitalized patients; Prescription patterns

1. Introduction

Antipsychotics are frequently used by psychiatrists to treat a wide range of very different clinical pictures characterized by psychotic symptoms, including schizophrenia, the manic phase of bipolar disorder, brief reactive psychoses, psychotic disorders due to a general medical condition, depression with psychotic symptoms, psychoses secondary to substance abuse (drug psychoses), mental retardation, borderline personality disorders, Huntington's chorea, Tourette's syndrome and pervasive developmental disorders, as well as for some symptoms and behaviours that cannot be classified as defined syndromes (Glick et al., 2001).

Classical neuroleptics have been widely used in clinical practice as the first-choice treatment for acute and chronic psychotic disorders (American Psychiatric Association, 1997), but they are not efficacious in the case of the negative and depressive symptoms of schizophrenia, and their use is frequently associated with the onset of disabling side effects such as extrapyramidal effects (Leucht et al., 1999; Moller, 1998).

Since the 1989 clinical introduction of clozapine, the first atypical antipsychotic, various other compounds belonging to the same class have been made available for the treatment of psychotic disorders, including risperidone (1994), olanzapine (1996) and quetiapine (1997) (in the USA) (Leslie and Roseneheck, 2002). Several clinical studies have shown that second-generation antipsychotics are more effective in

Abbreviations: AC, Anticholinergic; AD, Antidepressant; ADs, Affective disorders; Atyp, Atypical antipsychotic; BDZ, Anxiolytic (benzodiazepine); CLP eq, Chlorpromazine equivalents; ICD 9, International Classification of Diseases 9th edition; SPDC, Psychiatric and Therapeutic Psychiatric Service; Typ, Typical antipsychotic; M, Miscellaneous; Mood ST, Mood stabilizing drugs; SP, Schizophrenic psychoses.

* Corresponding author. Tel.: +39 02 55035915, +39 02 55035997; fax: +39 02 50320310.

E-mail address: maurimc@policlinico.mi.it (M.C. Mauri).

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treating patients who are resistant to traditional drugs, can control the negative and depressive symptoms of schizophrenia, and are associated with fewer extrapyramidal side effects (Geddes et al., 2000). For these reasons, their use has progressively modified the therapeutic approach to psychotic disorders and led to a consequent reduction in the use of classical neuroleptics (Lambert and Castle, 2003; Lieberman et al., 2000).

However, the real entity and nature of the clinical advantages of second-generation antipsychotic drugs are still unclear: as a class, they can cause a substantial increase in body weight, as well as alterations in glucidic metabolism and the plasma levels of cholesterol and lipids (Allison et al., 1998; Wirshing et al., 1998). Furthermore, given their recent introduction, there are still limited data concerning long-term reactions, the prevention of relapses, their effects on social and cognitive functions, and their impact on the patients' quality of life (Lieberman, 1996), and their increasingly widespread use has also drawn attention to pharmacoeconomic aspects because they may be even 100 times more expensive than traditional neuroleptics. However, the results of various pharmacoeconomic studies seem to have overcome the initial worries concerning the cost/benefit ratio of atypical antipsychotics by demonstrating that the total cost associated with their use is no different and sometimes even less than that of conventional neuroleptics (Hudson et al., 2003; McCombs et al., 2000).

The current guidelines for the treatment of psychotic disorders prescribe the use of an atypical antipsychotic as first-choice therapy and recommend avoiding multi-drug treatments, particularly combinations of atypical and typical neuroleptic drugs (American Psychiatric Association, 2004; Kane et al., 2003; McEvoy et al., 1999). However, in clinical practice, the co-prescription of atypical and traditional antipsychotics seems to be quite frequent despite the absence of data confirming their therapeutic benefits and the knowledge that such prescriptions lead to an increased use of anticholinergic drugs (Ereshefsky, 1999).

The aim of this study was to evaluate the use of antipsycotics in the Psychiatric and Therapeutic Psychiatric Service (SPDC) of Ospedale Maggiore, Milan, in 1989, 1999 and 2002 in order to verify whether this has changed since the introduction of the new atypical drugs. These years were chosen because no atypical antipsychotic was used in Italy in 1989, clozapine, risperidone and olanzapine were respectively introduced in 1995,1995 and 1998, and quetiapine was introduced in 2000. Particular care was taken to analyze the doses administered and the use of therapeutic regimens involving the combination of two or more antipsychotic agents. The study also investigated the distribution of the prescriptions of different classes of psychotropic drugs in combination with antipsychotics, the duration of hospitalization, and the clinical and sociodemographic characteristics of the populations studied in the same years.

2. Methods

2.1. Study design

The data were collected by consulting the medical records relating to the years 1989, 1999 and 2002 held in the SPDC archives of Ospedale Maggiore, Milan. The total sample consisted of 1696 patients admitted to our 36-bed hospital. The electronic database (Statgraphics Plus) was constructed on the basis of the following clinical and sociodemographic variables: year of admission, patient age and gender, diagnosis (ICD 9 criteria), and duration of hospitalization.

In order to obtain homogeneous data sets, the patients were subsequently divided into three main diagnostic categories:

- "schizophrenic psychoses" (paranoid, disorganized, catatonic, undifferentiated, residual and schizoaffective schizophrenia; acute schizophrenic episodes; delusional disorders; drug psychoses);
- "affective disorders" (bipolar affective disorders, manic, depressed; major depressive disorder; other affective disorders);
- "miscellaneous" (neurotic disorders; personality disorders; mental retardation; adjustment disorders; dementia; eating disorders).

The investigated variables relating to the drug treatment administered during the course of each hospitalization were the antipsychotic therapy prescribed during hospitalization and at the time of discharge (molecule and dose), and the concomitant administration of other drug classes (benzodiazepines, antidepressants, anticholinergic agents, mood stabilizers).

The antipsychotic doses were converted to chlorpromazine equivalents (CLP eq) (mg/day) on the basis of the potency ratios of the approximate median recommended daily doses to chlorpromazine 400 mg/day (Baldessarini and Tarazi, 2000; Bitter et al., 2003).

2.2. Data analysis

The statistical analyses were based on descriptive methods, ANOVA (*t*-test), the chi-squared test, multifactor analysis of variance (Tukey's test) and simple regression analysis, and made using Statgraphics plus 5 programs (2000 Manugistics, Inc., USA).

3. Results

The total sample of 1696 patients consisted of 350 hospitalized in 1989 (51% men; mean age 39.85 years ± 15.33 S.D.), 718 hospitalized in 1999 (49.44% men; mean age 45.46 years ± 14.24 S.D.), and 628 hospitalized in 2002 (48.72% men; mean age 45.95 years ± 15.49 S.D.).