A Survey of Prescribing Practices for Monoamine Oxidase Inhibitors

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Objective: **A survey examined prescribing practices for monoamine oxidase inhibitors (MAOIs) and explored reasons for the widely noted decline in their use.** ***Methods:*** **A one-page questionnaire was sent in 1997 to 1,129 members of the Michigan Psychiatric Association. A total of 717 responses were received, for a response rate of 64 percent. Only data from the 573 psychiatrists who were currently practicing were used.** ***Results:*** **Twelve percent of the respondents never prescribed MAOIs, 27 percent had not prescribed them for at least three years, and 17 percent had prescribed them from one to three years ago. Thirty percent of the respondents had prescribed an MAOI within the past three months, and 14 percent between three and 12 months ago. The most frequent reasons for not prescribing the drugs were side effects and interactions with other medications (46 percent), preference for other medications (30 percent), and dietary restrictions necessary for patients taking MAOIs (19 percent). Ninety-two percent of respondents believed that MAOIs were useful for atypical depression, 64 percent for major depression, 54 percent for melancholic depression, 56 percent for panic disorder, 44 percent for social phobia, 27 percent for dysthymia, 12 percent for obsessive-compulsive disorder, and 19 percent for posttraumatic stress disorder. However, only 2 percent said they would use MAOIs as their first-line treatment in atypical depression, and only 3 percent would use them a first-line treatment in social phobia.** ***Conclusions:*** **The results document the commonly held view that practicing psychiatrists believe MAOIs are efficacious but use them infrequently, primarily due to concerns about side effects and drug interactions. (*Psychiatric Services* 50:945–947, 1999)**

The use of monoamine oxidase inhibitors (MAOIs) has declined over the last three decades (1,2). However, MAOIs are quite effective in the pharmacotherapy of various mood and anxiety disorders, such as atypical depression, panic disorder, and social phobia (1–3).

About ten years ago Clary and associates (4) conducted a survey of prescribing practices related to MAOIs in Pennsylvania and Delaware, confirming the declining trend in prescribing them. In the survey, which had a 34 percent response rate, 25 percent of 485 responding psychiatrists reported prescribing MAOIs frequently, 37 percent occasionally, and 38 percent rarely or never. Twenty-seven percent of respondents were reluctant to prescribe MAOIs because the dietary precautions against food containing tyramine were considered too restrictive, 23 percent for fear of a hypertensive crisis, 14 percent for concern over other side effects, 12 percent due to inadequate training in use of MAOIs, 12 percent because of patients' resistance, and 12 percent for other reasons.

An interesting finding was that 64 percent of respondents reported that there were no psychiatric diagnoses for which MAOIs were a treatment of first choice. Twenty-one percent reported that MAOIs were their first choice for atypical depression, 11 percent for agoraphobia and panic disorder, 2 percent for borderline personality disorder, 2 percent for bipolar disorder, and 2 percent for other anxiety disorders. (Respondents could choose more than one diagnosis.)

The study by Clary and colleagues was done just as selective serotonin reuptake inhibitors (SSRIs) were being introduced. Since then, SSRIs have been frequently used for indications similar to those for MAOIs (5), although no head-to-head comparisons of the efficacy of the two categories of medications have been done. SSRIs have a more favorable side-effect profile; in particular, SSRIs can be used without risk of a hypertensive crisis. Thus the popularity of MAOIs may have decreased even more since the introduction of SSRIs and other newer antidepressants.

We surveyed the scope of MAOI prescribing practices among psychiatrists in Michigan and explored reasons for the widely noted decline in their use. When we designed and im-

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plemented our study, we were not aware of the survey by Clary and colleagues (4).

Methods

We mailed a one-page questionnaire to 1,129 members of the Michigan Psychiatric Society in three mailings during the summer of 1997. Mailing addresses were obtained from the society's 1997 directory. The questionnaire was constructed to elicit demographic information and information about the respondent's training, MAOI prescribing practices, and preference for first-line agents to treat atypical depression and social phobia, two diagnoses for which use of MAOIs is frequently suggested.

We received 717 responses (a 64 percent response rate), 573 of which were from currently practicing psychiatrists. Only data from the 573 currently practicing psychiatrists were used in the analyses. Statistical analysis consisted of summary statistics and tests of proportions using chi square analysis.

Results

Demographic characteristics

The sample was composed of 430 men (75 percent) and 140 women (24 percent). Three respondents did not indicate gender. The mean±SD age was 49.6±10.6 years, with a range from 30 to 80 years. The mean±SD time since completion of residency training was 16.6±11.3 years, with a range from one to 57 years. Seventy-three respondents (13 percent) considered their psychiatric training biological, 112 (20 percent) reported that it was dynamic, and 380 (67 percent) reported that it was eclectic. Eight persons did not answer the question.

Of the 573 currently practicing psychiatrists, 170 (30 percent) had prescribed MAOIs in the past three months; 82 (14 percent), three to 12 months ago; 96 (17 percent), one to three years ago; and 154 (27 percent), more than three years ago. Sixty-eight of the 573 respondents (12 percent) had never prescribed MAOIs. A total of 296 respondents (52 percent) prescribed MAOIs rarely or less than once a year, 178 (31 percent) occasionally, and only 13 (2 percent) frequently. Some respondents did not answer this question.

No significant differences were found in prescribing practices by type of training. Among the 73 psychiatrists who considered their training to be biological, two (3 percent) prescribed MAOIs frequently, compared with nine (3 percent) of those with eclectic training and two (2 percent) of those who considered their training to be dynamic. Similar percentages of these groups reported never prescribing MAOIs: 3 percent of respondents from biological programs, 3 percent of those from eclectic programs, and 2 percent of those from dynamic programs.

The use of MAOIs is extremely low and continues to decline. Only 2 percent of respondents prescribed them frequently, down from 25 percent of psychiatrists surveyed about a decade ago.

One analysis was restricted to the 479 currently practicing psychiatrists who had completed training at least five years ago. The mean±SD length of time since residency training for this group was 19.3±10.3 4 years. In this group, 4 percent of those from biological programs prescribed MAOIs frequently, compared with 3 percent from eclectic programs and 2 percent from dynamic programs (χ^2=14.9, df=6, p=.021).

We also determined the training of the 68 respondents (12 percent) who reported never prescribing the drugs. Among those who considered their training biological, 12 (17 percent) never prescribed MAOIs, compared with 34 (9 percent) of those with eclectic training and 22 (20 percent) of those from dynamic programs.

As for the particular MAOI prescribed, 217 respondents (45 percent) reported having prescribed phenelzine, 50 (10 percent) had prescribed tranylcypromine, and 215 (45 percent) had prescribed both medications.

The most important deterrent in never or rarely prescribing MAOIs was potential interactions, reported by 139 respondents (35 percent). Other deterrents were side effects, reported by 43 respondents (11 percent); a preference for other treatments such as SSRIs, 122 (30 percent); the dietary restrictions necessary for patients taking MAOIs, 76 (19 percent); potential legal complications, 11 (3 percent); lack of training in the use of the drugs, six (2 percent); and lack of belief that MAOIs are efficacious, four (1 percent). None of the respondents stated that the major deterrent to prescribing the drugs involved restrictions related to managed care.

Respondents were asked if they believed that MAOIs were useful in the treatment of various conditions. A total of 528 respondents (92 percent) believed that MAOIs were useful for treatment of atypical depression; 365 (64 percent) for major depression; 308 (54 percent) for major depression, melancholic type; 318 (56 percent) for panic disorder with or without agoraphobia; 253 (44 percent) for social phobia; 156 (27 percent) for dysthymia; 107 (19 percent) for posttraumatic stress disorder; and 70 (12 percent) for obsessive-compulsive disorder.

Respondents were asked to choose one medication type as a preferred first-line agent for atypical depression. A total of 464 (83 percent) selected SSRIs; 36 (6 percent), bupropion; 27 (5 percent), venlafaxine; 12 (2 percent), MAOIs; 11 (2 percent), nefazodone; eight (1 percent), tricyclic antidepressants; and two (less than 1 percent), mirtazapine.

When asked for their single preferred first-line agent for social phobia, 430 (78 percent) selected SSRIs;

52 (9 percent), other medications; 29 (5 percent), tricyclic antidepressants; 16 (3 percent), MAOIs; 12 (2 percent), bupropion; seven (1 percent), nefazodone; five (1 percent), venlafaxine; and one (less than 1 percent), mirtazapine.

Discussion

The use of MAOIs continues to decline since the survey of 485 psychiatrists in Pennsylvania and Delaware conducted by Clary and associates about ten years ago (4). Of the 573 psychiatrists in current practice in Michigan who responded to our survey, only 2 percent reported prescribing MAOIs frequently, which is much lower than the 25 percent reported in the Clary study. In addition, 52 percent of the psychiatrists in our study prescribed MAOIs rarely, compared with 38 percent in the earlier study.

The trend cannot be attributed to demographic characteristics because these characteristics were similar in both studies. The mean±SD age of our respondents was 49.6±10.6, compared with 48±12 years in the earlier study, and about three-fourths of the respondents in both studies were men (75 and 79 percent, respectively). Thirteen percent of our respondents described their training as biological, compared with 7 percent in the earlier study; the respective percentages were 20 percent and 34 percent for those with dynamic training, and 66 percent and 59 percent for those with eclectic training. Only 2 percent of the psychiatrists in our sample felt inadequately trained for prescribing MAOIs, compared with 12 percent in the previous survey.

The possibility of a hypertensive reaction and the need to maintain a low-tyramine diet were major deterrents to prescribing MAOIs reported in both our study and the Clary study. In our study 35 percent of respondents cited possible interactions with other medications, and 11 percent cited side effects; in the Clary study, 23 percent cited fear of a hypertensive crisis, and 14 percent cited side effects. Dietary restrictions were noted by 19 percent of psychiatrists in our survey and 27 percent in the Clary study. Thirty percent of our respondents stated that the most important deterrent to prescribing MAOIs was a preference for other medications.

Even though side effects and the possibility of a hypertensive crisis are major deterrents in prescribing MAOIs, the dangers of adverse effects with these drugs have been exaggerated (6). Some of the adverse reactions that have been attributed to dietary interactions were likely due to migraine headache, consumption of unusually large quantities of foods with low levels of tyramine, or other individual variations (6). In many cases the reported interaction between a foodstuff and the MAOI was not confirmed in controlled conditions. The outcome of a hypertensive crisis is usually not serious (4).

Even though our study found that a large number of psychiatrists in Michigan believe that MAOIs are useful in treating atypical depression (92 percent) and social phobia (44 percent), only a small percentage preferred the drugs as a first-line agent in treating these disorders (2 percent for atypical depression and 3 percent for social phobia). A clear discrepancy was found between beliefs about the usefulness of MAOIs and their actual use. In the Clary survey, 21 percent of the psychiatrists reported that MAOIs were their first choice for atypical depression, and 13 percent their first choice for various anxiety disorders. In Michigan the percentages were lower. However, as noted, the earlier survey was conducted when SSRIs were just being introduced to the market. Most of the psychiatrists in the current survey reported preferring SSRIs for atypical depression (83 percent) and social phobia (78 percent).

Conclusions

The most important new information obtained in this study is that the use of MAOIs is extremely low and continues to decline precipitously. Only 2 percent of respondents prescribed them frequently, down from 25 percent of psychiatrists surveyed about a decade ago. The type of residency training– biological or dynamic– does not seem to play a major role in determining prescribing practices for MAOIs. Psychiatrists are aware of the usefulness of MAOIs for various disorders. However, the drugs are rarely their choice for a first-line treatment in atypical depression or social phobia, the two most frequently noted indications for MAOIs.

Major deterrents in prescribing MAOIs are potential side effects and interactions– namely, hypertensive crisis. However, the dangers of side effects may be overstated. Better training in prescribing the drugs might help restore their place in the psychiatric armamentarium.

In any case, the role of MAOIs in the treatment of psychiatric patients continues to diminish, especially in the era of newer antidepressants. Use of MAOIs will probably be left to a few psychiatrists who prescribe them frequently and aggressively (4). ♦

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