

The choice of antiepileptic drugs in newly diagnosed epilepsy: a national French survey

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ABSTRACT – The choice of an antiepileptic drug (AED) in patients with epilepsy is mainly based on efficacy and safety of each drug. However, these criteria of drug selection should be further evaluated according to the epileptic syndromes, and adjusted to the sex and age of the patient. Unfortunately, very few studies have been conducted based on these latter criteria. We conducted a survey on the management of epilepsy treatment in adults. This survey was undertaken in France, and led to the establishment of a French consensus on antiepileptic drug treatment in adult patients with newly diagnosed epilepsy. Patients were grouped into 18 categories according to the epileptic syndrome (absence epilepsy, juvenile myoclonic epilepsy, undetermined idiopathic generalized epilepsy, symptomatic or cryptogenic partial epilepsy and unclassified epilepsy), and to the patient's gender and age. Our survey suggests that there is a consensus among French epileptologists for the choice of AEDs, mainly based on the epilepsy syndrome. Gender also plays a crucial role. Sodium valproate and lamotrigine are the two drugs of choice for generalized epilepsies, as well as for undetermined epilepsies. Lamotrigine is often preferred for women of childbearing age. First line AEDs in partial epilepsy are carbamazepine (particularly for men), lamotrigine (particularly for women), and gabapentin (in the elderly). In cases of failure and/or intolerance to one of these AED, the principal alternatives are oxcarbazepine, sodium valproate and topiramate.

KEY WORDS: antiepileptic drugs, treatment, survey, guidelines, epilepsy, monotherapy

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Today, numerous therapeutic options are available for the treatment of newly diagnosed epilepsy in adults. However, very few of the available clinical trials have compared the various treatments, and it is therefore extremely difficult, based on the literature, to establish a hierarchy of treatments and therapeutic strategies adapted to the various epilepsies. Most of the comparative trials in newly diagnosed patients evaluated a new antiepileptic drug (AED) against an old one [1-4]. Several studies also performed comparisons between two new AED, and most of these studies did not show any differences in terms of efficacy between the two AED [5]. The characteristics of the AED as regards to efficacy and safety have led to therapeutic approaches based both on the analysis of published data [6-8] and on the expertise of clinicians [9-13]. This survey aims to summarize the experience of French epileptologists in order to reveal a potential consensus on the modalities of therapeutic management for the first-line management of newly diagnosed epilepsy in adults or in cases of failure of first-line monotherapy. A similar study was undertaken with North America epileptologists [14], which led to the establishment of easy-to-use therapeutic recommendations concerning the choice of specific drugs for different epileptic syndromes in various clinical contexts in the USA.

The present study focuses on the management of newly diagnosed epilepsies and on which strategy that should be adopted in cases of failure of first-line monotherapy. Although the treatment of pharmaco-resistant epilepsies is not directly addressed in this study, the opinion of experts on the clinical situations proposed in the survey may provide some elements of response concerning the choice of the most appropriate drugs.

Methods

A very large majority of French epileptologists who manage adult patients, identified using the list of members of the French League Against Epilepsy and the list of physicians regularly registered for the annual meeting of the French League Against Epilepsy, were questioned. Sixty-three neurologists were included in the survey. The study was co-sponsored by the French League Against Epilepsy and did not receive any financial support from any company.

The method, used for the study, referred to as the 'expert consensus method', was developed by Kahn and colleagues [15], and was previously used in the survey of North American epileptologists [14]. The advantage of this method is that it enables the opinion of a large number of experts to be recorded entirely independently, and avoids the bias created by opinion leaders during expert meetings.

The questionnaire was sent to the physicians between July 1 and September 15, 2003. The answers were centralized

by the study coordinator, who had to send out several reminders to ensure optimization of the response rate.

The questionnaire comprised two parts (*table 1*). The first part concerned the therapeutic strategy adopted after fail-

Table 1. Survey questionnaire

Treatment strategy

In cases of failure of the first monotherapy, what do you do?

- immediate substitution monotherapy (after a few days or a few weeks)
- add-on treatment, then monotherapy substitution after proven efficacy of the 2nd AED (a few months)
- add-on therapy with a second AED

Choice of the antiepileptic drug

All AED (phenobarbital, phenytoin, carbamazepine, sodium valproate, lamotrigine, gabapentine, topiramate, oxcarbazepine, levetiracetam, vigabatrin, tiagabine, ethosuccimide, clonazepam, clobazam) were listed and clinician had to rate each AED from 1 to 5

- In young men without concomitant diseases: Which AED do you use for monotherapy?

- in IGE?
- in JME?
- in absence epilepsy?
- in symptomatic or cryptogenic partial epilepsy?
- in unclassified epilepsy?

- In women of childbearing age, NOT considering pregnancy: Which AED do you use for monotherapy?

- in IGE?
- in JME?
- in absence epilepsy?
- in symptomatic or cryptogenic partial epilepsy?
- in unclassified epilepsy?

- In women of childbearing age, considering pregnancy: Which AED do you use for monotherapy?

- in IGE?
- in JME?
- in absence epilepsy?
- in symptomatic or cryptogenic partial epilepsy?
- in unclassified epilepsy?

- In elderly patients: Which AED do you use for monotherapy?

- in IGE?
- in symptomatic or cryptogenic partial epilepsy?
- in unclassified epilepsy?

The answers were rated from 1 to 5 for each antiepileptic.

- 1) Extremely appropriate: it is your AED of choice (you may have several)
- 2) Appropriate: the AED you use the most after your 1st choice
- 3) Sometimes useful: an AED you sometimes use (i.e. in cases of failure or contraindication of the other AEDs)
- 4) Rarely useful: an AED that you rarely (or never) use or only in special cases
- 5) Potentially harmful or totally inadequate

ure of a first monotherapy. Three options were proposed: substitution monotherapy instituted within a few days or a few weeks, addition of a second AED and replacement monotherapy after a few months or finally, definitive, concomitant administration of a second AED as an early polytherapy.

The second part of the questionnaire was aimed at identifying the AED used for monotherapy in four specific clinical contexts, i.e. in young men with no concomitant diseases, in women considering, and not considering pregnancy, and in the elderly. Several epileptic syndromes were envisaged for each category of patients, i.e. unclassified idiopathic generalized epilepsy (IGE), juvenile myoclonic epilepsy (JME), absence epilepsy, symptomatic or cryptogenic partial epilepsy and unclassified epilepsy. The number of epileptic syndromes was limited so as not to prejudice the rate and quality of the responses to the survey. Thus, only the most common syndromes observed by neurologists in adults and adolescents, followed on an outpatient basis, were taken into account.

The answers were graded from 1 to 5 for each AED (*table 1*), with 1 representing the first-line AED and 5 representing an AED that could potentially worsen the condition or that is never used for the epileptic syndrome under consideration.

The questionnaires were analyzed qualitatively by giving the numbers and the percentage of each answer for the various situations envisaged. The data were also analyzed quantitatively by determining the median (50% of answers are below the median value), the 25% quarter values (25% of physicians provided an answer below this value) and the 75% quarter values (75% of physicians provided an answer below this value). These parameters were used rather than the mean and standard deviation, given the non-gaussian distribution of the variables.

Results

The response rate for the survey was 89% (56/63). The list of the 56 participants is provided at the end of this article.

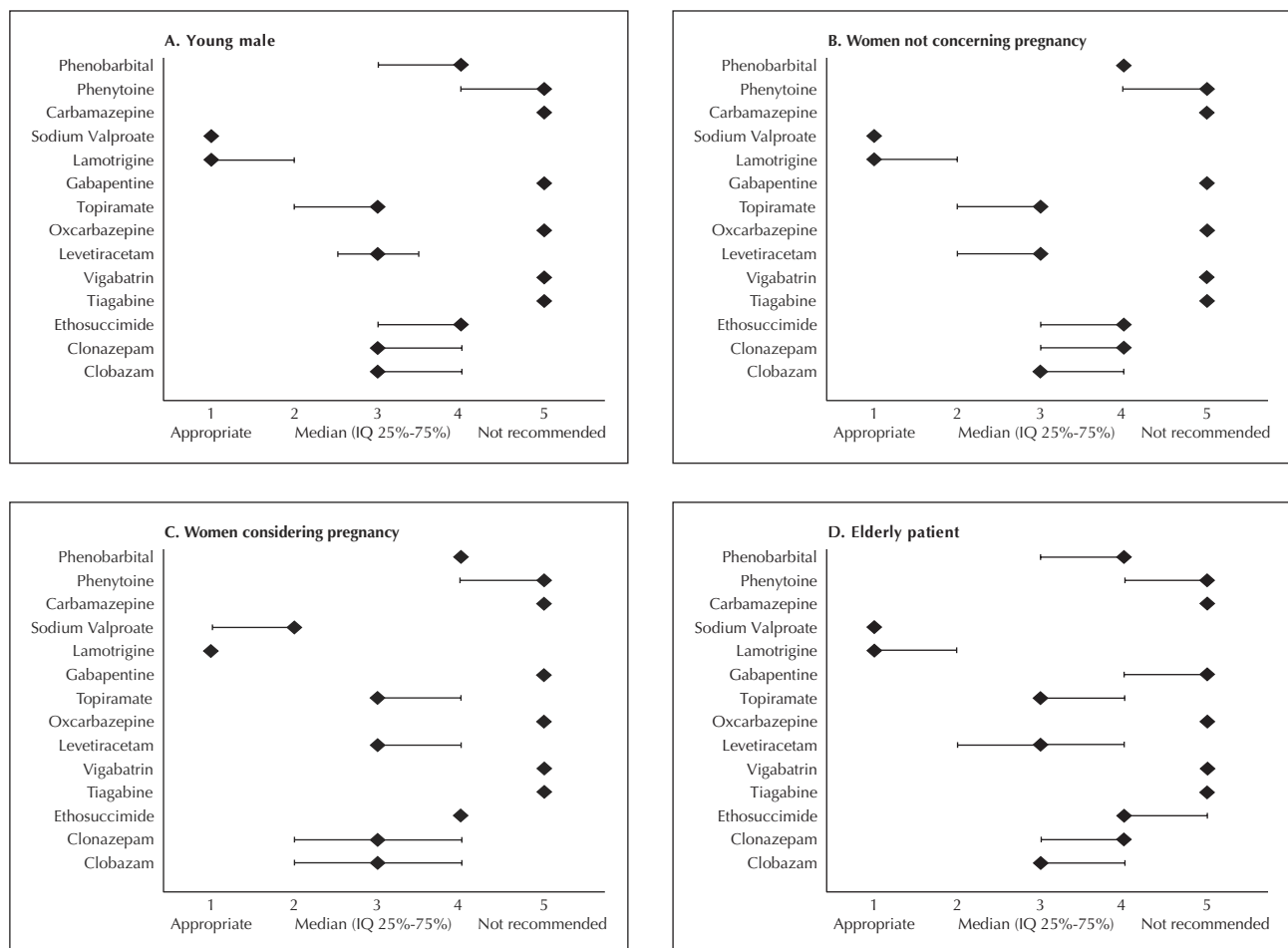


Figure 1. The choice of an AED in Idiopathic Generalized Epilepsy (mean and interquartile 25% and 75%).

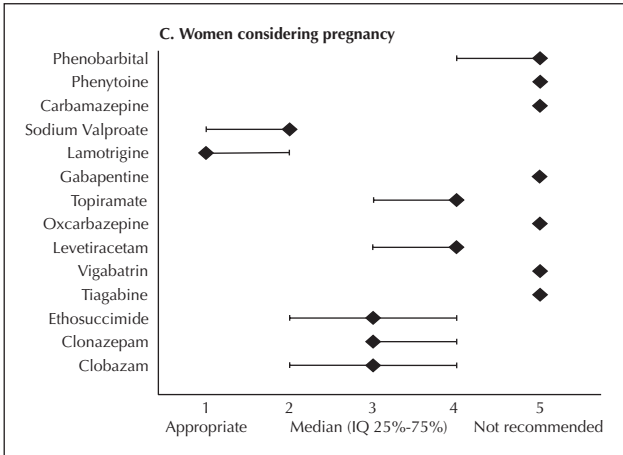
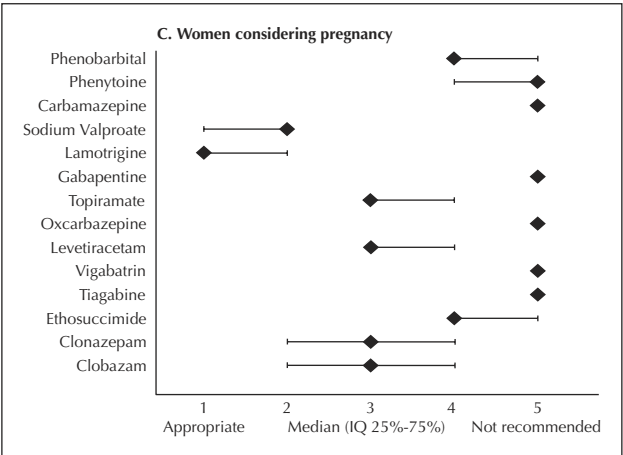
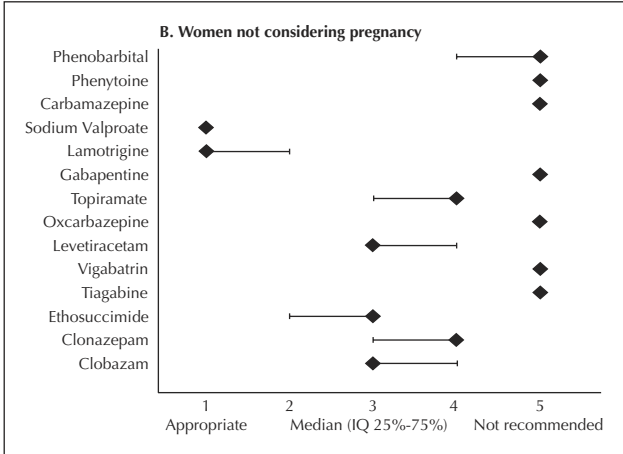
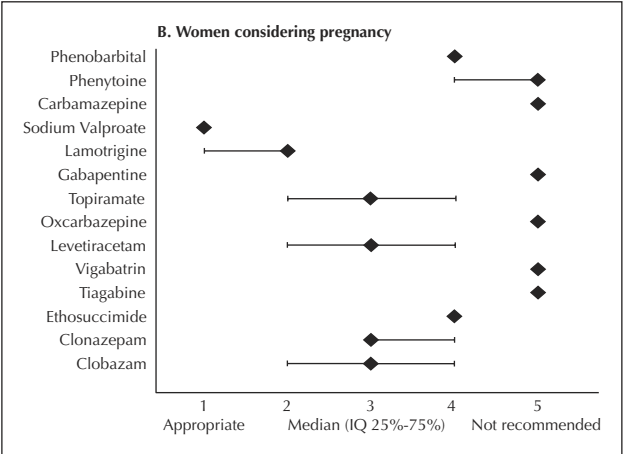
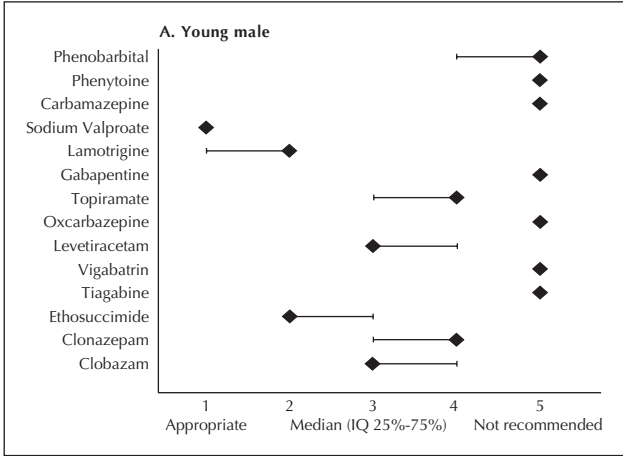
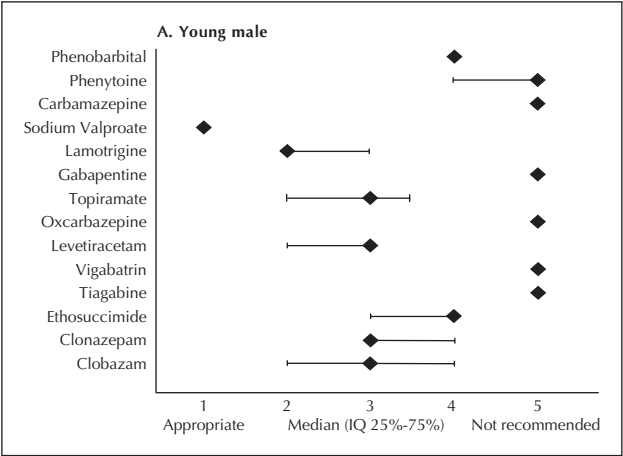


Figure 2. The choice of an AED in Juvenile Myoclonic Epilepsy (mean and interquartile 25% and 75%).

Figure 3. The choice of an AED in Absence Epilepsy (mean and interquartile 25% and 75%).

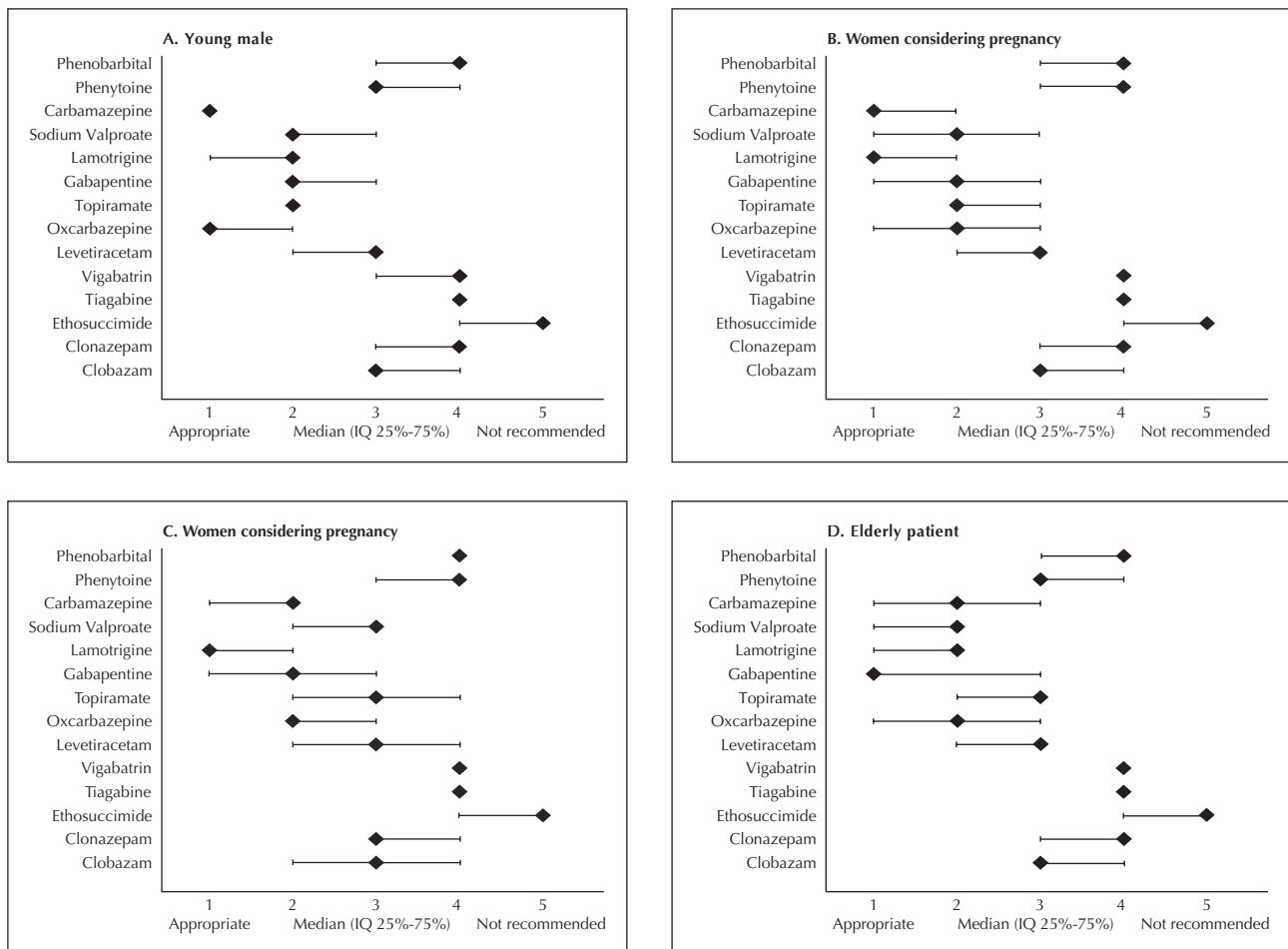


Figure 4. The choice of an AED in Partial Epilepsy (mean and interquartile 25% and 75%).

Treatment strategy in cases of failure of the first monotherapy

The strategy adopted after failure of the first monotherapy depends of the type of epilepsy. Two approaches were reported: immediate substitution monotherapy (43.5-55% according to the epileptic syndromes) or replacement with a second drug, identified (36-43.5% according to the epileptic syndromes) after a phase of add-on treatment. The latter solution makes it possible to ensure that the second antiepileptic agent is well tolerated by the patient before the first is removed. It was noted that these two solutions were adopted with the same incidence (42.9%) for IGE, whereas for partial or unclassified epilepsy, most clinicians prefer immediate substitution monotherapy to replacement in two phases (51.8% *versus* 35.7% for partial epilepsy and 55.4% *versus* 41.1% for unclassified epilepsy). Early polytherapy is not a recommended therapeutic option.

Selection of the first-line antiepileptic drug

The first-line antiepileptic drug of choice was assessed in five clinical situations and in each category; patients were grouped into four groups according to age and gender.

Unclassified idiopathic generalized epilepsy

In men without concomitant disease

Two drugs are used by a majority of physicians for this indication, i.e. sodium valproate (VPA) and lamotrigine (LTG). These were the only two drugs licenced in France for first-line monotherapy in this situation at the time of the survey. The AED considered as extremely appropriate by 94.6% of clinicians is VPA, which can therefore be considered as the reference drug. For LTG, the figure is 58.9%. Third place is occupied by topiramate (TPM), considered as «appropriate» by 39.3% of practitioners, then comes levetiracetam (LEV) considered as «appropriate» by 23.2%. It should be reported that some drugs are consid-

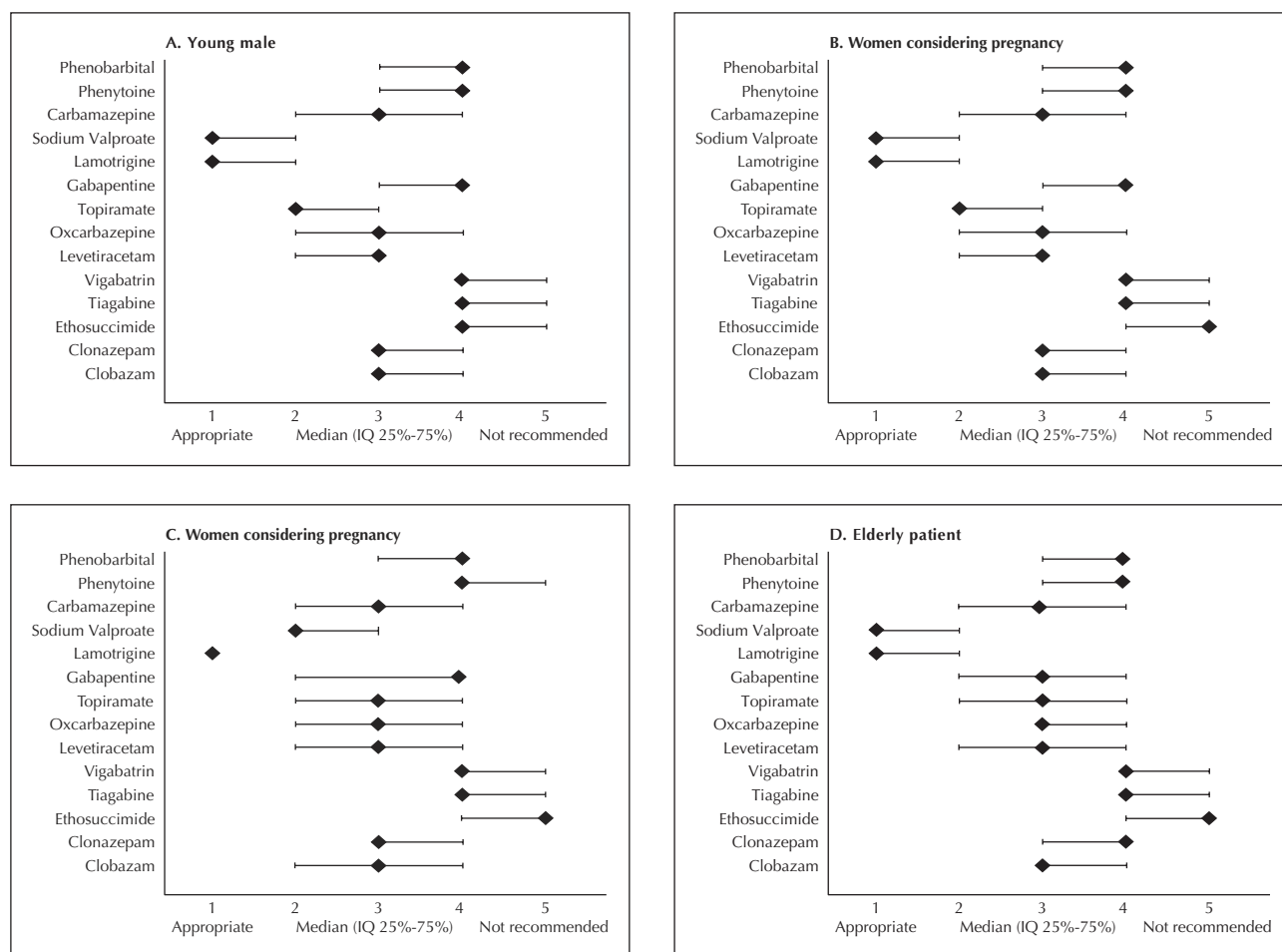


Figure 5. The choice of an AED in undetermined epilepsy (mean and interquartile 25% and 75%).

ered as totally unsuitable, and even potentially harmful, e.g. vigabatrin (91%), carbamazepine (CBZ) (84%), oxcarbazepine (OXC) (84%), tiagabine (83%), gabapentin (GBP) (78%) and phenytoin (PHT) (53%). These drugs are unsuitable for the first-line treatment of generalized epilepsy in men.

In women not considering pregnancy

Two AEDs are mainly used for this indication, i.e. sodium valproate and lamotrigine, with sodium valproate considered by 83.6% of clinicians as «extremely appropriate» and lamotrigine by 69.1%. The proportion of «extremely appropriate» responses in favor of sodium valproate is slightly lower for women than for men. The third position is again occupied by topiramate, considered by 40% to be «appropriate», followed by levetiracetam, considered to be «appropriate» in 36.4% of cases. As for men, the drugs considered to be totally unsuitable or potentially harmful include, i.e. vigabatrin (85%), carbamazepine (84%), oxcarbazepine (82%), tiagabine (83%), gabapentin (78%) and phenytoin (60%).

In women of childbearing age and considering pregnancy

If a woman is considering pregnancy, lamotrigine becomes the AED of choice for a large majority of clinicians who consider it «extremely appropriate» in 81.8% of cases, whereas sodium valproate is only considered by 30.9% of practitioners to be «extremely appropriate». Topiramate and levetiracetam are only considered as «appropriate» by 20% of the neurologists and «extremely appropriate» and «appropriate» by 14.8% of clinicians, respectively.

In elderly subjects

Idiopathic generalized epilepsy is a relatively rare condition in this population, but should a patient present with IGE, he/she will be prescribed one of two AED: sodium valproate is considered «extremely appropriate» by 75.9% of clinicians and «appropriate» by 18.5%, and LTG is considered «extremely appropriate» by 64.8% of practitioners and «appropriate» by 25.9% of them. As for young men, levetiracetam occupies the third position,

considered by 28.3% as «extremely appropriate or appropriate». Topiramate is considered by 20.4% as «extremely appropriate or appropriate».

Juvenile Myoclonic Epilepsy

In men without concomitant disease

As JME corresponds to the most frequent type of IGE in the young adult, the responses obtained are very similar to those for IGE. Moreover, VPA seems to be the drug of choice for this form of epilepsy, considered by 98.2% of clinicians as being «extremely appropriate». Lamotrigine is considered «extremely appropriate» and «appropriate» in 23.2% and 50% of cases, respectively. Topiramate is considered «extremely appropriate» in 3.6% of cases and «appropriate» in 33.9% of cases. These results are relatively similar to those obtained with levetiracetam (considered «extremely appropriate» by 3.6% of clinicians and «appropriate» by 34.5% of clinicians). Furthermore, the list of non-indicated drugs is identical to that for IGE, i.e. vigabatrin, carbamazepine, oxcarbazepine, tiagabine, gabapentin and phenytoin.

In women NOT considering pregnancy

Sodium valproate is the drug of choice for the treatment of JME, and 92.7% of clinicians consider VPA as «extremely appropriate» and 7.3% consider VPA as «appropriate». The second choice is lamotrigine, considered by 45.5% to be «extremely appropriate» and 38.2% to be «appropriate». Topiramate is considered «extremely appropriate» by 1.8% of clinicians and «appropriate» by 29.1%. These results are similar to those for levetiracetam (considered by 1.9% to be «extremely appropriate» and by 40.7% to be «appropriate»). The list of non-indicated drugs is identical to that for IGE.

In women of childbearing age and considering pregnancy

Lamotrigine is recommended by the majority of clinicians to treat this form of epilepsy, in this patient group, with 60% of them considering it «extremely appropriate» and 27.3% «appropriate». Sodium valproate is considered by 40% to be «extremely appropriate» and 43.6% to be «appropriate».

As for unclassified IGE, the other drugs are not prescribed for first-line use.

Absence Epilepsy

In men without concomitant disease

The questionnaire did not distinguish between absence epilepsy in adolescents and absence epilepsy in children, which has a better prognosis. Once again, VPA seems to be the drug of choice for this type of epilepsy, considered by 92.9% to be «extremely appropriate». The second choice is lamotrigine, which seems to be more frequently prescribed for this indication than for JME, with 47.3% of

clinicians considering it «extremely appropriate» and 43.6% «appropriate». As mentioned in its Marketing Authorization, ethosuximide is a good choice for this indication and is considered by 8.9% of clinicians as «extremely appropriate» and 48.2% as «appropriate». Topiramate is considered as «extremely appropriate» by 16.4% of practitioners and «appropriate» by 27.3%. The efficacy of levetiracetam still seems to be debatable (considered by 1.8% of physicians as «extremely appropriate» and 14.5% as «appropriate»). Here again, a long list of drugs are proscribed, i.e., carbamazepine, oxcarbazepine, vigabatrin, tiagabine, gabapentin, phenytoin and phenobarbital.

In women not considering pregnancy

Once again, VPA is chosen unanimously for this form of epilepsy, in this patient group, considered by 85.5% to be «extremely appropriate» and 14.5% to be «appropriate». It is followed by lamotrigine, with 54.5% of clinicians considering it «extremely appropriate» and 34.5% «appropriate». Ethosuximide is a good choice for this indication and is considered by 7.3% of clinicians as «extremely appropriate» and 40.0% as «appropriate». Topiramate is considered as «appropriate» by only 13% of clinicians, which is much lower than the results for men and even lower than the score for levetiracetam, which is considered by 24.1% of physicians as «appropriate». The list of non-indicated drugs is the same as for IGE and JME, and phenobarbital should also be added to this list.

In women of childbearing age and considering pregnancy

A large majority of clinicians recommend LTG as the drug of choice for this category of IGE with 70.9% of them considering it «extremely appropriate» and 23.6% considering it «appropriate». Sodium valproate is the second choice with 43.6% of clinicians considering it «extremely appropriate» and 41.8% «appropriate». Ethosuximide is only considered by 7.3% of clinicians as «extremely appropriate» and 20.0% as «appropriate».

As for the other IGEs, the other AED are not prescribed for first-line use.

Symptomatic or Cryptogenic Partial Epilepsy

In men without concomitant disease

The reference AED for the treatment of partial epilepsies is carbamazepine, considered by 82.1% of clinicians as «extremely appropriate» and 12.5% as «appropriate». The second choice is oxcarbazepine considered as «extremely appropriate» by 57.1% and «appropriate» by 26.8% of practitioners. These two products are followed by lamotrigine, gabapentin, sodium valproate and topiramate. Few drugs are considered «inappropriate» or harmful for this form of epilepsy (figure 4).

In women NOT considering pregnancy

For women, the reference drugs for the treatment of partial epilepsies are carbamazepine, (considered by only 54.5% of clinicians as «extremely appropriate» (against 82.1% for men) and 27.3% as «appropriate») and lamotrigine (considered as «extremely appropriate» by 56.4% and «appropriate» by 32.7% of practitioners). The other available drugs are oxcarbazepine (considered «extremely appropriate» by 45.5%), gabapentin (considered «extremely appropriate» by 34.5%), sodium valproate (considered «extremely appropriate» by 27.3%) and topiramate (considered «extremely appropriate» by 12.7%).

In women of childbearing age and considering pregnancy

The reference drug for the treatment of partial epilepsies is lamotrigine, with 70.9% of clinicians considering it «extremely appropriate» and 21.8% as «appropriate». Carbamazepine has a lower score, with 40% of practitioners considering it «extremely appropriate» (against 82.1% in men and 54.5% in women not considering pregnancy). The other AEDs of choice are gabapentin (considered «extremely appropriate» in 27.3% of cases) and oxcarbazepine (considered «extremely appropriate» in 21.8% of cases).

In elderly subjects

The most cited AED in elderly subjects is gabapentin, considered as «extremely appropriate» by 56.4% of practitioners and «appropriate» by 18.2% of them. The second choice is lamotrigine, considered by 49.1% as «extremely appropriate» and by 36.4% as «appropriate». The other AEDs are carbamazepine (considered «appropriate» in 43.6% of cases), sodium valproate (considered «appropriate» in 36.4% of cases) and oxcarbazepine (considered «appropriate» in 29.1% of cases).

Unclassified epilepsy*In men without concomitant disease*

Most clinicians make the choice of broad-spectrum anti-epileptic agents to treat this form of epilepsy, particularly VPA, considered «extremely appropriate» by 72.2% of practitioners and «appropriate» by 25.9%, or lamotrigine, considered «extremely appropriate» by 53.7% of practitioners and «appropriate» by 37.0%. Topiramate is considered by 7.4% as «extremely appropriate» and 53.7% as «appropriate». These last percentages are relatively similar to those found for levetiracetam (3.7% consider it «extremely appropriate» and 42.6% as «appropriate»). The list of non-indicated drugs is similar to that for IGE, i.e. ethosuximide, tiabagine, vigabatrin and carbamazepine.

In women not considering pregnancy

Lamotrigine is considered «extremely appropriate» by 69.8% of practitioners and «appropriate» by 24.5%, while VPA is considered «extremely appropriate» by 67.9% of

practitioners and «appropriate» by 28.3%. Topiramate is considered by 9.4% as «extremely appropriate» and 50.9% as «appropriate». These percentages are relatively similar to those found for levetiracetam (3.8% consider it «extremely appropriate» and 41.5% as «appropriate»). The list of non-indicated drugs is identical to that for unclassified epilepsies in young men, i.e. ethosuximide, tiabagine, vigabatrin and carbamazepine.

In women of childbearing age and considering pregnancy

Lamotrigine obtains its highest score in these cases, with 78.2% of clinicians considering it «extremely appropriate» and 16.4% considering it «appropriate». Sodium valproate is considered «extremely appropriate» in 23.6% of cases and «appropriate» in 47.3%. No other molecule is considered «extremely appropriate» by more than 10% of clinicians.

In elderly subjects

Clinicians tend to choose lamotrigine in such cases, considered by 65.5% as «extremely appropriate» and 21.8% as «appropriate». The second choice is VPA with 60% of practitioners considering it «extremely appropriate» and 30.9% considering it «appropriate». The other drugs are not usually prescribed for first-line monotherapy.

Discussion

This survey reveals that the therapeutic approach in most of the clinical situations described regarding the management of adult patients with newly diagnosed epilepsy is very consensual.

It appears that the choice of first-line medication depends mostly on the form of epilepsy or epileptic syndrome, which underlines the importance of using the epilepsies and epileptic syndromes classification [16]. The consensus is more marked in generalized epilepsy (unclassified IGE, JME or Absence Epilepsy). The therapeutic approaches are more diverse for partial epilepsies.

The method used for this national survey was that chosen by Karceski and colleagues in the North American survey on the treatment of epilepsies [14]. This method has also been very widely used in psychiatry to establish a consensual approach for numerous diseases [14]. Using this method makes the possibility of obtaining a representative version of the opinion of specialists in the field, all the more likely. The neurologists contacted worked in both public and private practices, therefore the results provided in this report reflect the reality of all the approaches in France, in contrast to the North American study where only academics were questioned. The report provides the opinion of experts, which is a combination of scientific knowledge and clinical experience. Expert opinion does not replace data published in the literature, particularly from clinical trials, but it provides clinicians with various

first-line therapeutic options adapted to precise clinical situations. Clinicians can use these results to compare their personal practices to those of a group of experts. Although results derived from expert opinion do not comprise any scientific arguments, two American studies have shown that recommendations, established on the basis of such studies, significantly improved clinical results after the implementation of such decisional algorithms [17]. This study reflects a consensus on antiepileptic treatment in 2003, however, should significant progress be made in this therapeutic field, "expert opinion" will have to be reassessed. The results of this survey are only representative of the practice of French specialists and cannot be extrapolated to foreign health systems. However, it is always interesting to compare therapeutic habits between countries with similar health care levels.

Choice of a first-line antiepileptic drug

In generalized epilepsies

In unclassified IGE and/or juvenile myoclonic epilepsy there is no difference in the management of unclassified IGE and juvenile myoclonic epilepsy, although the efficacy of the various antiepileptic drugs in myoclonus remains controversial. Sodium valproate can be considered as the AED of choice, with lamotrigine being an alternative or a second choice. If either of these two antiepileptics is inefficient and/or poorly tolerated, the alternative could be topiramate. This statement was also recently mentioned in the report of the subcommittees of the American Academy of Neurology (AAN) and the American Epilepsy Society (AES) for refractory epilepsy [7, 8]. The efficacy of levetiracetam, needs to be established by large-scale, controlled studies. In women considering pregnancy, lamotrigine is the drug of choice for the vast majority of clinicians, with sodium valproate considered as an alternative in only a third of cases. The other drugs are not used as first-line therapies.

The choice between VPA and LTG is mainly made as a function of the seizures and of their initial severity, as well as of the terrain, i.e. an initial, high incidence of seizures and a highly myoclonic context will point to VPA, whereas LTG will be prescribed in women considering pregnancy or when the patient is predisposed to putting on excess weight. These differences might be due to the studies on the risks of major malformations in offspring of women with epilepsy [18-20].

The drugs proscribed as first-line therapies in generalized epilepsies are clearly identified, i.e. vigabatrin, carbamazepine, oxcarbazepine, tiagabine, gabapentin and phenytoin.

A comparison with the North American survey conducted at the end of 2000/beginning of 2001 shows that practices are similar in France and the USA. The molecules chosen to treat IGE were the same, but LTG was preferred to VPA, except for the treatment of myoclonus where VPA is the

drug of choice. As regards the special categories, such as women considering pregnancy, pregnant women and the elderly, lamotrigine was the drug of choice for IGE.

In absence epilepsy

As for other IGEs, VPA can be considered as the monotherapy drug of choice, with lamotrigine being used either as an alternative or as second choice. If these two AEDs are inefficient and/or poorly tolerated, the alternatives are topiramate or ethosuximide. Phenobarbital must be added to the list of proscribed drugs for IGE. In women considering pregnancy, lamotrigine is the AED of choice for the large majority of clinicians, followed by sodium valproate. The other AED are not used as first-line therapy, except for ethosuximide, which is sometimes prescribed.

In symptomatic or cryptogenic partial epilepsy

The reference AED for the treatment of partial epilepsy is carbamazepine in men, lamotrigine in women and gabapentin in the elderly. In cases of failure and/or intolerance to one of these AEDs, the principal alternatives are oxcarbazepine, sodium valproate and topiramate. The use of levetiracetam as first-line monotherapy is currently under study. In women considering pregnancy, the AED of choice is lamotrigine. In cases of failure, the alternatives are carbamazepine, then gabapentin, then oxcarbazepine.

In the North American survey, the treatment of choice was CBZ, followed by PHT, OXC, LTG and VPA. In women of childbearing age, LTG was the second choice after CBZ, but if the woman was already pregnant, LTG became the drug of choice, irrespective of the type of epilepsy. Similarly, in the elderly, LTG was the AED of choice. The recommendation of the subcommittees of the AAN and the AES for the treatment of new-onset epilepsy stated that the choice of CBZ, PHT, VPA, PB, GBP, LTG, TPM, OXC depends on individual patient characteristics [8].

In unclassified epilepsies

Sodium valproate can be considered as the first-line AED in men, and lamotrigine, either as an alternative or as the second choice. In women and the elderly, there is no consensus for either molecule. If both these antiepileptics are inefficient and/or poorly tolerated, topiramate may be used as an alternative. The use of levetiracetam is still to be investigated. Ethosuximide, tiagabine, vigabatrin, oxcarbazepine and carbamazepine are not indicated. In women considering pregnancy, the AED of choice is lamotrigine. In cases of treatment failure, sodium valproate should be used as an alternative.

The choice between VPA and LTG should also be made as a function of the initial severity of the seizures and of the terrain, i.e. an initial high incidence of seizures will be an indication for VPA, whereas if the woman is considering pregnancy or the patient has a tendency put on excess weight, LTG is more likely to be prescribed.

Treatment strategy in cases of failure of the first monotherapy

The strategy adopted for the second treatment after failure of the first monotherapy depends on the type of epilepsy. Prescription habits can be divided into two approaches, as follows:

- Immediate substitution monotherapy;
- Replacement after a phase of concomitant administration of the second drug, found to be efficient. This solution makes it possible to verify the patient's tolerance to the second antiepileptic agent, before withdrawing the first drug. The time of this withdrawal should be discussed with the patient [21].

Thus, the choice between these two approaches depends on the context and on the habits of the prescribers

Concomitant treatment with a second antiepileptic drug without envisaging its withdrawal at a later stage is not recommended except in special cases, and the rule for the choice of a monotherapy for newly diagnosed patients should not be changed [22]. Nevertheless, this survey shows that a certain number of practitioners sometimes resort to early add-on treatment.

Conclusion

This national survey demonstrated a consensus in the choice of AED for adult patients. Depending on the situation, all the AED with a Marketing Authorization for first-line monotherapy (carbamazepine, gabapentin, lamotrigine, oxcarbazepine, sodium valproate) can be recommended for first-line use. The indications for the other antiepileptics, particularly topiramate and levetiracetam, still need to be specified, the latter molecule having become available for prescription in community pharmacies after the survey had been conducted. Its position in the range of available therapies will therefore need to be reassessed in the near future. Vigabatrin, tiagabine, phenytoin and phenobarbital are antiepileptics that are only used in special cases or after failure of the other therapeutic agents. Safety data and the absence of interactions with other drugs are the reasons why recently marketed therapeutic agents are more and more frequently chosen to treat recently diagnosed epilepsies. Finally, should new therapeutic breakthroughs be made in the field of epileptology, this work would need to be repeated in order to increase the implantation rate of what is considered to be the best clinical practices so that as many patients as possible may benefit from the progress. □

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