Screening and hepatitis C management survey in General Medicine in the Alpes-Maritimes and East Var area

Denis OUZAN (1, 2), Philippe HOFLIGER (3), Philippe CAVAILLER (2, 4), Christophe MAMINO (3), Albert TRAN (2, 5)
(1) Institut Arnault Tzanck, St Laurent du Var ; (2) Réseau Ville Hôpital Hépatite C, Côte d’Azur ; (3) Collège Azuréen des Généralistes Enseignants, Nice ; (4) Epicentre, Médecins Sans Frontières, Genève ; (5) Hôpital de l’Archet 2, Nice.


SUMMARY
Background — This study was performed to assess screening and management of hepatitis C by community-based practitioners in the Alpes Maritimes district in the South of France and to compare their practices with the recommendations issued by the consensus conferences in 1997 and 1999. This information was to be used to adapt continuing medical education to the needs of practitioners in the area.

Method — Two hundred and nineteen general practitioners who were members of eighteen continuing medical education associations accepted to complete a questionnaire containing eighteen closed questions. It was issued late 1999 during one of the monthly meetings and completed by all the participating physicians.

Results — Only 32% of general practitioners knew the conclusions of one of the two French and European consensus conferences concerning hepatitis C. General practitioner practices were in accordance with recommendations for targeted screening in case of transfusion before 1991 (88%), intra-venous drug use (94%) and increased ALT (91%); however intra nasal drug use (33%) and imprisonment (46%) were underestimated risk factors. Frequency of screening was correlated to duration of practice (P < 0.01), size of practice (P < 0.02) and follow-up of hepatitis C infected patients, regardless of treatment (P < 0.03).

Upon discovery of a positive HCV status, 80% of general practitioners prescribed initial investigations but these included costly and needless procedures such as hepatic imaging (56%), RNA quantification (39%) and viral genotype (6%). On the other hand, 79% general practitioners recommended a liver biopsy for patients with elevated transaminase levels. When transaminase levels were normal, only 13% requested qualitative detection of viral RNA. Generally, general practitioners were confused concerning the indications for qualitative or quantitative viral RNA investigations.

Few general practitioners followed treated HCV-infected patients and renewed interferon therapy prescriptions. Condom use was advised by 56% of GPs for couples in which one of the partners had a positive HCV status.

Conclusions — This study demonstrates the weak impact of consensus conferences on hepatitis C management for general practitioners in the Alpes Maritimes. It provides an opportunity to identify the need for specific training which will be developed within the Côte d’Azur Hepatitis C Network.

RÉSUMÉ
Enquête de pratique en Médecine Générale sur le dépistage et la prise en charge de l’hépatite C dans les Alpes-Maritimes et l’est du Var
Denis OUZAN, Philippe HOFLIGER, Philippe CAVAILLER, Christophe MAMINO, Albert TRAN
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Méthodes — Deux cents dix-neuf médecins généralistes membres des 18 associations de formation médicale continue du département ont accepté de remplir un questionnaire comportant 18 questions fermées. Ce questionnaire a été proposé au cours d’une des réunions mensuelles de la fin 1999 et rempli par tous les généralistes présents.

Résultats — Seuls 32 % de ces médecins connaissaient les conclusions d’une des 2 conférences de consensus française et européenne, sur l’hépatite C. Leur pratique était en accord avec les recommandations de dépistage ciblé pour la transfusion avant 1991 (88 %), l’usage de drogues par voie intraveineuse (94 %) et l’augmentation de l’activité de l’ALAT (91 %), par contre l’usage de drogues par voie nasale (35 %) et l’incarcération (46 %) étaient sous estimées. La fréquence du dépistage était liée à l’ancienneté de pratique (P < 0.01), à une activité importante (P < 0.02) et au suivi des malades atteints d’hépatite C, traités ou non (P < 0.03).

Lors de la découverte d’une nouvelle séropositivité anti VHC, le bilan initial était prescrit par 80 % des médecins généralistes, mais comportait des examens peu utiles et coûteux comme l’imagerie hépatique (56 %), le dosage quantitatif de l’ARN (37 %) et le génotype viral (6 %). Par contre, 79 % des médecins généralistes proposaient une ponction biopsie hépatique aux malades anti VHC positifs avec activité des aminotransférases élevée. Lorsque l’activité des aminotransférases était normale, la recherche qualitative de l’ARN viral n’était réalisée que dans 13 % des cas. De façon globale, il apparaissait une confusion entre les dosages qualitatifs et quantitatifs de l’ARN viral, dont les indications sont mal connues.

Peu de médecins généralistes (17 %) suivent les malades traités et renouvellent les ordonnances d’Interféron. Cinquante neuf pour cent d’entre eux préconisent l’utilisation d’un préservatif pour le couple dont l’un des partenaires est anti VHC positif.

Conclusions — Cette étude montre le faible impact des conférences de consensus sur la prise en charge de l’hépatite C par les médecins généralistes des Alpes-Maritimes. Elle a permis d’identifier des besoins de formations ciblées qui seront développées dans le cadre du Réseau Hépatite C Côte d’Azur.

E-mail: denis.ouzan@wanadoo.fr
Hepatitis C is a potentially serious disease which has become a major public health issue because of its high prevalence. It is estimated that 500,000 to 600,000 people living in France are infected with the hepatitis C virus (HCV). In the Provence-Alpes-Côte d’Azur region, the prevalence of anti-HCV antibodies is higher (1.7%) than in other regions of France: Centre (0.8%), Ile-de-France (0.9%), Lorraine (1.1%) [1]. These figures came from a study conducted in 1994 [1] which showed that 20% of the subjects infected with the HCV were aware of their positive serology. At the present time, this awareness is estimated to reach 50% although no precise data is available in the literature. The mechanisms of HCV transmission are relatively well known. The principal risk factors are blood transfusion before 1991 and intravenous or intra-nasal drug use [2,3]. A third risk factor, imprisonment, has also been recognized due to the relationship with drug abuse [2]. Other risk factors have also been recently identified [4]. In light of recent therapeutic advances, particularly the use of the interferon-ribavirin combination [5] and the more recently introduced pegylated interferon [6], it would be reasonable to expect a significant reduction in HCV-related morbidity and mortality. This new situation and the growing involvement of general practitioners in caring for HCV-infected patients suggests that physician education should be reinforced. Since 1997, several consensus conferences have focused on hepatitis C [2,3,7], but the impact of guidelines produced by these conferences has not been evaluated in the general practitioner population.

The purpose of this work was to ascertain screening and management practices for hepatitis C of general practitioners in 1999 and to compare these practices with the recommendations established by the 1997 [2] and 1999 [3] consensus conference with the objective of elaborating continuing education programs adapted to the real needs of this physician population.

Material and methods

The study population was composed of community-based general practitioners practicing in the Alpes-Maritimes district and East Var area of southern France. A sample population was selected among physicians participating in continuing medical education associations. Two physician investigators contacted the heads of each association operating in the Alpes-Maritimes district as well as one association in the East Var area. All the associations agreed to participate in the study during one of their regular training sessions in late 1999. The two investigators presented the general problem of hepatitis C screening and management at the training session and invited the participants to fill out a questionnaire. The questionnaire was prepared by a panel composed of experts and general practitioners with good knowledge of the hepatitis C consensus conference guidelines. The questionnaire was distributed to participants at monthly sessions of 18 associations. Participation was anonymous. The physicians completed the 18-item multiple-choice questionnaire during the session. In order to obtain reliable information on daily practice, the physicians were asked to report their real practice and not what they thought should be done. The questionnaires were then collected by the investigators, giving a participation rate of nearly 100%.

The same questionnaire was also sent by mail to 24 general practitioners with good knowledge of the hepatitis C screening and hepatitis screening practices. Logistic regression was used to take into account confounding factors.

Data were recorded on an Excel work sheet and analyzed with SPSS software. The standard deviation method was used for quantitative variables and the proportion method for categories. The chi-square test or Fisher’s exact test were used as appropriate to search for correlations between qualitative variables. Means were compared by analysis of variance. The odds ratio with the 95% confidence interval was calculated to determine the strength of the relationships between different variables and hepatitis screening practices. Logistic regression was used to take into account confounding factors.

### Results

#### Characteristics of the 219 general practitioners

Ninety-one percent of the participants practiced in urban areas and 9% in rural or semi-rural areas. Sixty-three percent had been in practice since 1984. Thirty-two percent started practice between 1985 and 1994 and 6% after 1995. Sixty percent had a single-physician practice and 40% a group practice. There activity level was: < 50 consultations per week for 15%, 50-100 consultations per week for 49%, and more than 100 for 49%.

#### Screening practices

Ninety-nine percent of the general practitioners had prescribed a screening test: very often (> 10/month) for 3%, often (> 3/month) for 36%, or occasionally (< 3/month) for 62%. Frequency of prescriptions for screening tests was related to time in practice (> 15 years) (p < 0.01), large sized practice (p < 0.02), and care for patients with hepatitis C (p < 0.03). Upon patient demand, screening tests were prescribed systematically by 17%, often by 29%, and only if there was a risk factor by 52%.

#### Situations where a screening test was proposed

Four groups of patients could be identified: intravenous drug users (94%), patients with isolated elevation of aminotransferase activity (91%), patients with a history of blood transfusion before 1991 (88%), and patients living with an anti-HCV-positive individual (70%). Prior imprisonment or intra-nasal drug use were not recognized as risk factors by 45% and 35% of the general practitioners, respectively.

The most widely employed screening were HCV serology (94%), serum transaminase (47%), and HCV RNA (10%).

#### Complementary tests prescribed

Eighty percent of the 215 physicians who responded to the question prescribed complementary tests for patients positive for anti-HCV antibodies. These first intention investigations are presented in table II. Most of the physicians prescribed serum

### Table I. Do you perform hepatitis C screening according to the following risk factors or symptoms?

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intravenous drug use</td>
<td>201 (94)</td>
</tr>
<tr>
<td>Isolated elevated transaminase level</td>
<td>193 (91)</td>
</tr>
<tr>
<td>Blood transfusion before 1991</td>
<td>187 (88)</td>
</tr>
<tr>
<td>Living in contact with an HCV-positive individual</td>
<td>148 (0)</td>
</tr>
<tr>
<td>Tattooing-Piercing</td>
<td>99 (47)</td>
</tr>
<tr>
<td>Prior imprisonment</td>
<td>98 (46)</td>
</tr>
<tr>
<td>Blood transfusion after</td>
<td>92 (43)</td>
</tr>
<tr>
<td>Asthenia</td>
<td>78 (37)</td>
</tr>
<tr>
<td>Surgery</td>
<td>76 (36)</td>
</tr>
<tr>
<td>Nasal drug use</td>
<td>74 (35)</td>
</tr>
<tr>
<td>Endoscopy</td>
<td>67 (32)</td>
</tr>
<tr>
<td>Acupuncture</td>
<td>37 (17)</td>
</tr>
<tr>
<td>Dental care</td>
<td>14 (7)</td>
</tr>
</tbody>
</table>
transaminase assays (96%) while 56% prescribed abdominal ultrasound. About one-third prescribed either a qualitative or quantitative HCV RNA test.

The second line investigations prescribed for anti-HCV-positive patients with elevated transaminase levels are presented in Table III, IV: 79% of the general practitioners recommended a liver biopsy, 16% a qualitative RNA test, and 33% a quantitative RNA test.

Most of the general practitioners recommended regular monitoring of serum transaminases for anti-HCV-positive patients with normal transaminase levels. Only 13% prescribed a qualitative RNA test for these patients.

**Patient follow-up**

Forty-seven percent of the general practitioners stated they followed untreated patients; 17% followed treated patients. Sixteen percent stated they wrote renewal prescriptions for patients taking interferon.

**Advice given to anti-HCV-positive patients**

The advice given to patients with positive anti-HCV serology is summarized in Table V. Most physicians advised their patients against blood donation or sharing syringes, but only 59% recommended the use of condoms.

### Knowledge of the hepatitis C consensus conference guidelines

Thirty-two percent of the general practitioners stated they knew the French [2] or European [3] hepatitis C guidelines. Physician profile, screening tests used, and prevention advice were not different between physicians with (n = 71) or without (n = 241) knowledge of the guidelines. The only difference concerned risk factors indicating the need for a screening test. General practitioners who were aware of the guidelines had better knowledge of these factors (76%) than those who were not (47%) p < 0.01.

### Discussion

This survey analyzed the practices of 219 general practitioners in the Alpes-Maritimes district and East Var area of southern France, most of whom attend continuing medical education sessions. We chose this approach in order to achieve a large number of physicians in a short time with the hope that the response rate would be better than with a telephone or mail survey. Nearly 100% of the physicians attending the education sessions agreed to participate in the survey. These physicians practiced in widely different settings and about one-third of them had good knowledge of the French [2] or European [3] hepatitis C consensus conference guidelines. Physicians who followed patients with hepatitis C and those who had a larger practice prescribed screening tests more often. Consequently, the fact that the consulting physician cares for hepatitis C patients would logically be a factor contributing to the frequency of hepatitis C screening. Our data suggest that general practitioners have good knowledge of factors indicating the need for screening tests: blood transfusion before 1991, intravenous drug use, elevated transaminase levels [2]. Nevertheless, it is noteworthy that awareness of other risk factors — imprisonment and nasal drug use — is less acute, particularly among physicians who state they are not aware of the consensus recommendations. The fact that anti-HCV antibodies is the most widely used screening test is reassuring. The widest differences with the consensus guidelines concerned recommended complementary examinations. Certain costly and less frequently ordered investigations such as imaging (56%), quantitative HCV RNA assay (39%), and viral genotype (6%) were prescribed for first-line exploration. Other examinations prescribed for second-line exploration — e.g. qualitative search for HCV RNA — were only ordered by 16% of the general practitioners for patients with elevated transaminase levels. Similarly, qualitative search for HCV RNA was only ordered by...
13% of the physicians for patients with normal transaminase levels despite the recommendation for it in a systematic manner [2, 3]. In this situation, quantitative assay of HCV RNA and viral genotype, which are of little use for treatment, were ordered by 25% and 13% of the physicians respectively.

There thus appears to be confusion between qualitative and quantitative tests used to detect HCV RNA. General practitioners appeared to be insufficiently aware of the appropriate use of these tests irrespective of their knowledge of the consensus guidelines. It is interesting to note that 80% of general practitioners prescribed a liver biopsy for patients with an elevated transaminase level. This goes against the idea that general practitioners are rather reluctant to order a liver biopsy, suggesting that the relatively low number of biopsies cannot be attributed solely to a hesitant medical population. Patient refusal of this test perceived as aggressive is probably involved.

In regards to advice on prevention, general practitioners appear to be well aware of the major risk factors (blood transfusion, syringe sharing), but less so of the risk concerning grooming utensils. A very large majority recommended the use of condoms, here again with no difference between those with and without knowledge of the consensus guidelines [2, 3].

Knowledge of these guidelines does not appear to have any influence on the prescription of complementary investigations or advice on prevention. Two factors may be proposed to explain this: certain general practitioners who participated in this study may have been aware that consensus guidelines have been written without having a real knowledge of their content; or the manner in which these guidelines have been diffused could also be involved. Our study points out the weak impact of these guidelines which have been published in medical journals and distributed by mail. It would be useful to think about other modes of diffusion which might be more effective, particularly for the new consensus conference which was devoted to treatment [7] and reached certain conclusions differing from the previous conferences. The low percentage of general practitioners who participated in this study and reached certain conclusions differing from the previous conferences. The low percentage of general practitioners who participated in this study may have been aware that consensus guidelines have been written without having a real knowledge of their content; or the manner in which these guidelines have been diffused could also be involved. Our study points out the week impact of these guidelines which have been published in medical journals and distributed by mail. It would be useful to think about other modes of diffusion which might be more effective, particularly for the new consensus conference which was devoted to treatment [7] and reached certain conclusions differing from the previous conferences.

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