4.2001

TABU

LÄÄKEINFORMAATIOTA LÄÄKELAITOKSELTA
LÄKEMEDELSINFORMATION FRÅN LÄKEMEDELSVERKET, FINLAND | DRUG INFORMATION FROM THE NATIONAL AGENCY FOR MEDICINES, FINLAND

4.2001
9. vuosikerta
9 årgången
9th Annual volume

Sammandrag

Summary

Summary

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Editorial

Medicines, prices and competition

Competition is one of the indispensable forces of market economy. Public and social debates appear to favour competition and shun regulations hampering free competition. In Finland, there is legislation promoting fair trading practices, and the Office of Free Competition monitors compliance therewith. The fact that certain functions in society neither can – nor were they ever intended to – be based on the principle of free competition, gives rise to a conflict of interests.

Health care services, including pharmaceutical services are clear examples of such. In terms of our constitution, the state shall promote the health of the inhabitants, and ensure that equal social and health care services are made available to all, as provided by law and decree. In our specific health care legislation, including the Medicines Act, provision is made for municipalities to organise such services, and for the functions of pharmacies. This legislation takes precedence over that relating to competition legislation.

There are many reasons for restricted free competition of pharmaceutical services, thus creating a static market. According economic theory, market conditions are inadequate, if: 1) the goods, i.e. medicines, are not being placed on the market freely, 2) the pricing of medicines is not free, 3) the number of service providers in the market is limited, 4) the markets, i.e. consumers and patients, do not have access to all relevant information on medicines, their properties or prices, 5) entering or leaving the market is controlled, 6) medicines are not identical, and 7) instead of consumers, physicians decide on what medicines are used, and furthermore, a major proportion of the cost is borne by a third party, the society.

It is a fallacy to think that competitive pricing could be introduced at pharmacy level under the current system. If we want to have effective competition with price in the pharmaceutical retail trade, we must first change market conditions by reforming the relevant legislation. Any serious debate on this aim has, however, not emerged in recent years.

Last spring, the Department of Social Services of the Municipality of Helsinki decided to issue tenders for the subsidised purchasing of medicines by its clients. For obvious reasons, that decision had to be reviewed before the end of June. Now that the municipal decision-makers are reconsidering the issue, they would do well to think what means are appropriate for that sector of health services. The principal means of competition are simply not universally applicable.

The Medicines Act provides for fixed list prices of medicines, which determine the sales margins of pharmacies, and consequently the retail prices of medicines. The purpose of imposing fixed list prices is that medicines would be similarly priced at all pharmacies. The tendency of some pharmacies to have reduced-price sales shows that the idea behind the imposition of fixed list prices has partially failed to be recognised. Should legislators draw the conclusion that the sales margins of pharmacies are unduly inflated, and take action to counteract the trend? A draft bill to amend the Medicines Act, drawn up at the Ministry of Social Affairs and Health, has been circulated to interested parties, and any comments on it are due this coming autumn. It is more than reasonable to expect that the exact provisions of the fixed list prices of medicines, as envisaged when the current Act was enacted, will be based on health politicy grounds. The patient needing medicines should not be made to run from one pharmacy to another in search of the daily special offer.

Is any form of competition appropriate within the pharmaceutical sector? Yes, indeed, and there are many examples of this. From the society's viewpoint, the most beneficial form is the price competition between generic medicinal products, provided that physicians' prescription practices could be influenced. Competition within the pharmaceutical industry is also beneficial when it leads to significant pharmaceutical innovations. Pharmaceutical advertising and marketing also reflect the competitiveness of the industry. In that regard, it is obvious that physicians' prescribing decisions, or consumers' decisions when buying self-care products, are the objects of heavy competition. Although pharmacies compete with each other, they are using means that are suitable for the system. Those means include opening hours, quality of services and the level of drug information.

It should be borne in mind that demand in the health care market can grow indefinitely, but the payers' resources are limited. That makes regulation and control necessary. We need a system ensuring the safe, equal, and highly cost-effective provision of the health care benefits referred to in the constitution.

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Summary

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Treatment of restless legs syndrome

Restless legs syndrome is a common somatic disorder which is often taken lightly by doctors. By causing severe sleep disturbance it can nevertheless impair the patient's physical and mental quality of life. Recent research results have shown that there is no question of peripheral neuropathy, a cramp or a psychiatric disorder, but that the underlying cause is a specific deficiency of CNS dopaminergic neurotransmission which can be reversed by drugs with dopaminergic effect.

Diagnostic criteria

Restless legs syndrome was clearly identified as early as in 1945 (1) but internationally consistent clinical diagnostic criteria were not published until a few years ago (2).

The diagnostic requirements for the syndrome consist of four minimum criteria which, when all are fulfilled, allow the diagnosis of restless legs syndrome to be made, and six additional supportive criteria (Table 1).

Typically, the patient tells of sensations in the lower limbs which are difficult to describe (paraesthesiae/dysaesthesiae) and which are associated with the need to move the legs. As the symptoms become more severe, sensations may also be felt in the upper limbs. The patient uses words such as stinging, tingling, numbness, pain or ache. In addition to the need to move the legs, the sensation is associated also with motor restlessness (movement, rubbing, shaking or cycling motion of the legs, or walking). One of the diagnostic key features is that the sensations appear when the patient is motionless and they disappear again as the patient starts moving.

Table 1. ***Diagnostic criteria***

Definitive criteria

1. *Sensations difficult for the patient to describe, occurring in the lower limbs and associated with the need to move*
2. *Motor restlessness (the patient needs to stretch or rub the muscles, toss and turn and shift the legs in bed or get up and move about)*
3. *The symptoms only occur at rest (either lying down or sitting up) and are obviously relieved when the patient gets up to walk*
4. *Most of the symptoms occur in the evening and at night-time*

Additional criteria

1. *Difficulties in falling asleep, or waking up at night, and daytime fatigue and exhaustion associated with sleep disturbance*
2. *Periodic limb movements reported by the patient*
3. *Periodic limb movements either during sleep (PLMS) or while drowsing off, revealed by a sleep study*
4. *Normal neurological findings*
5. *Typically progression of the clinical picture (a periodic discomfort becomes continuous at first, the symptoms become more severe, and sensations gradually come to be felt also in the upper limbs)*
6. *Close relatives exhibiting the same symptoms (autosomal dominant inheritance)*

The symptoms occur mostly in the evening at bedtime and the patient may find it difficult to fall asleep, or at night after a couple of hours of sleep, forcing the patient to get up and walk.

Sleep disturbance and consequent daytime fatigue are the most common reasons for seeing a doctor.

The patient is generally able to associate motor restlessness with the difficulty of falling asleep, but usually unable to explain why he or she wakes up after a couple of hours of sleep. Stereotypical periodic movements of limbs occur in over 80% of the patients.

Idiopathic or secondary restless legs?

In about half of the patients the symptom is exhibited in an idiopathic form without a precipitating factor or disease. The idiopathic symptom is generally inherited in an autosomal dominant form, and the associated specific genetic abnormality is still unidentified. The secondary form of the syndrome is mostly exhibited in renal insufficiency, anaemia associated with iron deficiency and in rheumatism. In about 11% of the pregnancies the syndrome occurs, usually after 20 weeks' gestation. Restless legs syndrome may appear and sustain daytime fatigue after the introduction of CPAP treatment in patients with the

Table 2. ***Differential diagnoses of restless legs syndrome***

Diagnosis	*Differentiating features*
Polynephropathy	*Paraesthesias and aches of the lower limbs which are not significantly alleviated by movement*
Nerve root syndrome (sciatica)	*Lasègue and Kernig positive, may settle at rest*
Cramp	*Painful muscle cramps which may also occur during the day. May be provoked by exercise.*
Dyskinesias in the state of wakefulness	*Involuntary movements of limbs during wakefulness*
Painful legs and moving toes	*A rare sequela following a spinal cord operation or damage, with involuntary painful movements*
Burning feet syndrome	*Heat, not a typical symptom of restless legs syndrome*
Arterial and venous disorders of the lower limbs	*Intermittent claudication syndrome or visible varicose veins of the lower limbs*
REM sleep behaviour disorder	*Violent movement during REM sleep which harms the patient or his/her sleeping partner*
Narcolepsy	*Compulsive daytime seizures of falling asleep and cataplectic seizures*
Bruxism	*Wear and tear of teeth, hypertrophy of the masticatory muscle, reported by the sleeping partner*
Other forms of sleeplessness	
Sleep-time respiratory disturbances (snoring and obstructive sleep apnoea)	*Loud snoring and repeated interruptions of respiration during sleep*
Epileptic seizures	*Seizure-like motor symptoms, especially in children and adolescents*

obstructive apnoea syndrome (3). Antipsychotics that block dopamine receptors may cause akathisia which resembles restless legs syndrome.

Prevalence

With a prevalence of 5–10%, restless legs syndrome is one of the most common neurological diseases of the adult population. There are significant local and racial differences in the prevalence of the inherited form. Generally the symptoms are mild and sporadic at first and the prevalence and severity increase with age.

Restless legs syndrome begins at the age of 27 on average, even though over 10% of the patients have exhibited symptoms since childhood. In patients under the age of 20, restless legs syndrome is often misdiagnosed and thought to be caused by rheumatism, hyperactivity or psychological adjustment disorder.

Assessment of severity of restless legs syndrome

The symptoms of restless legs syndrome are generally mild and sporadic. The disorder can be considered severe when symptoms occur almost daily, they appear both in the upper and the lower limbs, they are associated with fatigue or exhaustion which interferes with the daytime activities, or when the patient needs to make significant adjustments in his or her way of living and socialising due to the syndrome. Fatigue and motor restlessness make concentration on mental activities difficult. The need to move the legs is most bothersome at the moment when the patient is tired and would, in fact, need a rest.

The most precise assessment of the severity of the syndrome can be made with the help of the 10-section questionnaire designed by an international research group, where each question is valued with points between 0 and 4. The total amount exceeds 20/40 points when the symptoms are severe.

The intensity of night-time periodic movement of legs associated with the syndrome can be defined by a simple study using a static-charge-sensitive bed (4). The degree of sleep disturbance can be defined, for instance, by measuring the quantity of leg movements and associated arousals using an electroencephalograph (EEG).

Differential diagnosis

The diagnosis of the syndrome is based on the patient's history and is generally confirmed when the four main criteria are fulfilled. The clinical pictures of the idiopathic and the secondary syndrome do not differ from each other. Problems of differential diagnosis generally occur in patients with peripheral neuropathies and who exhibit symptoms of both at the same time. A sleep study may be necessary to exclude alternative diagnoses of the syndrome. Table 2.

Treatment

Treatment of the syndrome (5,6) aims at eliminating symptoms which reduce the quality of life. Treatment is not likely to slow down, or for that matter to speed up, the natural progression of symptoms taking place with age. The syndrome is not likely to be associated with increased mortality, which the treatment would otherwise aim to reduce.

After the diagnosis has been confirmed it is important to establish

whether it is a question of the idiopathic or the secondary form. In the first place, the use of and necessity for drugs exposure to which may cause the syndrome are examined. Drug therapies harmful from the point of view of the syndrome are curtailed and as far as possible withdrawn. Underlying iron deficiency can be checked by measuring the serum ferritin concentration.

Levodopa

Unless it is possible to eliminate the cause of the syndrome, drug therapy should be considered. Most of the experience and placebo-controlled research results are associated with the combination therapy of levodopa and peripheral dopadecarboxylase-inhibitor (7,8). A dose of 100–200 mg of levodopa administered one hour before bedtime will reduce both idiopathic and secondary symptoms significantly, especially during the first half of the night. The effect can be prolonged by making the evening dose a combination of 100–200 mg of levodopa and 100–200 mg of the slow release preparation of levodopa. The initial dose should be as small as possible (50–100 mg) and the lowest effective dose is sought by slowly increasing the dose. Daily doses in excess of 400 mg are not recommended because the likelihood of exacerbation of symptoms and shift in the time of their occurrence will increase with high doses. With the doses mentioned, levodopa is generally well tolerated even with long-term use.

Morning rebound, exacerbation of symptoms or shifting of the time of symptoms to evening or even morning may become a problem with levodopa therapy. The likelihood of these problems increases with the use of high single doses. Reduction in dose or a gradual change to slow release dopamine agonists may solve the problem.

Dopamine agonists

Dopamine agonists include both the conventional type with ergotamine structure such as bromocriptine, pergolide and cabergoline and the more recent types with non-ergotamine structure such as pramipexole and ropinirole. Studies with limited patient material show some persuasive evidence of the effect of these dopamine agonists in the treatment of restless legs, but results of placebo-controlled studies are only available on pergolide and pramipexole (Table 3).

Pergolide

Pergolide is an ergot alkaloid which mainly stimulates the D_1 and D_2 dopamine receptor. Patients who develop exacerbation of symptoms during levodopa therapy generally obtain improved control of symptoms with pergolide (9,10). In the placebo-controlled study (28 patients) the average dose of 0.5 mg pergolide administered two hours before bedtime prolonged the total duration of sleep and reduced the night-time periodic movements to one tenth of the usual. Subjectively assessed quality of sleep and life and symptoms of restless legs improved significantly (11).

The most common adverse effects of pergolide include nausea, vomiting and orthostatic hypotension. To avoid adverse effects the treatment should be started with very low dose (0.05 mg). The dose can be increased at intervals of a couple of days until either adequate response is obtained, or increase in dose is prevented by adverse effects. If adverse effects prevent the increase in dose before the therapeutic level is reached, treatment is continued with the highest tolerated dose for some time. After the patient has become accustomed to the dose it is often possible to increase it further. Anti-emetic drugs with CNS effect such as metoclopramide are not recommended because they have an antagonistic influence on even the desired effects of pergolide.

Table 3. ***The use of dopamine agonists in the treatment of restless legs.***

	Pergolide	***Pramipexole***
Receptor affinity	*D_1 and D_2*	*6–8 times higher affinity for D_3 receptor compared with D_2 and D_4 receptors*
Introduction of treatment	*0.05 mg 2–4 days 0.10 mg 2–4 days 0.20 mg 2–4 days etc. until therapeutic dose is found (ad 0.75 mg)*	*0.18 mg 1/2 tablet 2 days 0.18 mg 1 tablet 2 days 0.18 mg 1 1/2 tablet 2 days etc. until therapeutic dose is found (ad 0.36 mg)*
Timing of dosage	*At night 1–2 hours before bedtime or prior to start of symptoms*	*At night 1/2 hour before bedtime or prior to start of symptoms*
Typical therapeutic dose	*0.12–0.5 mg*	*0.088–0.36 mg*
End of treatment	*A quick decrease in dose may have a severe rebound effect on the restless legs syndrome. To avoid this, treatment is withdrawn gradually by dividing the initial dose into halves*	
Most common adverse effects	*Nausea, vomiting, orthostatic hypotension*	*Mild nausea*
Rare adverse effects	*Drowsiness, swelling, white fingers, erythema, pulmonary fibrosis*	*Drowsiness, sleeplessness, hallucinations, compulsive tendency to fall asleep*

Pramipexole
Pramipexole is associated with considerably fewer risks of adverse effects than pergolide. It is likely that it is precisely because of its D_3 receptor selectivity that pramipexole is both exceptionally effective in the alleviation of restless legs symptoms and well tolerated (12). Nausea, dizziness, sleeplessness, constipation and hallucinations have been reported in patients with Parkinson's disease who received significantly high doses of pramipexole (maximum dose of 3.3 g of alkali/day). Paradoxical increase in daytime fatigue and tendency to fall asleep have also been reported with high daily doses, and consequently, the ability to drive, for instance, should be monitored while the patient is becoming accustomed to the treatment.

Due to its good tolerability, pramipexole is easier to use than pergolide, which is why it should be considered as the primary choice when long-term drug therapy is indicated (Table 3).

Opioids
Opioids are effective drugs in the treatment of restless legs syndrome, but their use is restricted by the risk of drug dependency and misuse. Due to the minor risk of dependency and misuse, tramadol 50–100 mg before bedtime is in practice the only important alternative (13). Opioids have traditionally been used in the treatment of cases with severe symptoms and where levodopa resistance occurs. Due to the ease of use, tramadol could also in principle be particularly appropriate in milder cases where the drug could be taken only as required to treat sporadic symptoms.

Other drugs
Anti-inflammatory drugs and drugs used for cramps are ineffective. Patients with rheumatism and suffering from restless legs syndrome, in particular, have an increased risk of complications associated with gastrointestinal haemorrhages when treating their leg symptoms themselves.

Treatment of restless legs in primary health care

Restless legs is a common, severely underdiagnosed and largely untreated disorder which can reduce the quality of sleep and life in a large proportion of our elderly population. If hereditary, the symptoms may start early, at a young age, and interfere with cognitive functions during schooling. The secondary type of restless legs syndrome is especially common in uraemia and rheumatoid arthritis.

There are no generally approved guidelines in Finland for the treatment of restless legs syndrome. Sending all patients for routine neurological examinations and treatment would not be sensible because the syndrome is so common. My suggestion is that a general practitioner familiar with the treatment of restless legs could treat the primary or secondary syndrome when the neurological findings are normal, the age of the patient is over 30 years, and the symptom responds well to a small dose of dopamine agonist. A consultation with a neurologist is perhaps appropriate when the symptoms are unusual, there is total absence of or only partial response to treatment, relatively high therapeutic doses are required, or exacerbation of symptoms develops during treatment.

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Summary

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The statins, myalgia and rhabdomyolysis in Finland

Right in the beginning of the clinical use of the statins it was known that in rare cases they may cause muscular pain, myopathy and even rhabdomyolysis. It has been suspected that this adverse effect may, at least partly, be associated with ubiquinone deficiency, due to the decrease of ubiquinone-transporting LDL by the statin treatment. Estimates about the incidence of myopathy vary much: depending on the patient selection, medicine, dose and diagnostic criteria the estimates range from 1:2000 or 1:3000 to 1:10 000 treatment year. Of other lipid lowering drugs the fibrates cause similar muscle disorders, and concurrent use of fibrates and statins includes a high risk of these adverse effects.

The adverse drug reactions -register in Finland has since 1988 received 62 reports of myalgia, increase in creatinine kinase or rhabdomyolysis (table). The share of muscular disorders of all adverse reactions reported of each statin ranges from 20 % to 43 %, indicating that there are no significant differences among the individual drugs. Due to the small use and few reports it is too early to state anything about cerivastatin yet.

There are four cases of rhabdomyolysis in connection with the statin treatment:

*Patient **1** is a 54 years old woman who had lovastatin 80 mg/day for the treatment of hypercholesterolemia. The patient started itraconazol 200 mg/day for nail fungal infection, and two weeks later she experienced muscular pains, fatigue and her urine turned dark. Serum creatinine kinase was 18 770 U/L at the highest.*

*Patient **2** is a 66 years old woman who received pravastatine 20 mg/day in addition to the previous treatment with bezafibrate 800 mg/day. After months of this concomitant medication fatigue and pain in lower limbs began. Serum creatinine kinase was 10 240 U/L.*

*Patient **3** is a 52 years old man who previously had had ciclosporine for the treatment of membraneous glomerulonephritis. Simvastatine 80 mg/day was used for hypercholesterolemia. Ciclosporine was started again, and within one month muscular pains and weakness developed. Serum creatinine kinase was 196 000 U/L.*

*Patient **4** is a 51 years old woman with diabetes who received simvastatine 80mg/day. Within a month she had muscular pains in her legs. Serum creatinine kinase was 57 000 U/L.*

The importance of interactions is stressed by the fact that in the above mentioned cases, only in one case statin treatment alone was related to rhabdomyolysis. In the first case the interaction was pharmacokinetic: itraconazole increased the level of lovastatin by preventing its metabolism. Bezafibrate may cause similar harmful muscular adverse effects than statins. In the third case multiple mechanisms may be involved: renal insufficiency alone can predispose for rhabdomyolysis caused by lipid lowering drugs, and ciclosporine can increase the level of simvastatine.

Drug	*Reports*	*Myalgia/CK increase*	*Rhabdomyolysis*
Simvastatine	*38*	*11*	*2*
Lovastatine	*57*	*20*	*1*
Pravastatine	*5*	*1*	*1*
Fluvastatine	*42*	*18*	*0*
Atorvastatine	*41*	*8*	*0*
Serivastatine	*3*	*0*	*0*

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Register of dental implants

The creation and development of the Finnish dental implant register are in many respects linked to the endoprosthesis register started by the Finnish Orthopaedist Association in 1980. The administrative development of the register has evolved from a register held by the Orthopaedist Association, via the National Board of Health and the National Research and Development Centre for Welfare and Health, ultimately into a national register held by the Medical Devices Centre of the National Agency for Medicines. The implants register was extended on 1 April 1994 to include also collection of data on dental implants installed and removed in the country. The need for a further extension of the implants register has been discussed but no final conclusion has yet been reached. Artificial materials are increasingly being used in replacing the functions of organs, and not all their effects are known. For this extensive monitoring to safeguard patient safety would be necessary.

After long-term pioneering work, implant studies were further developed especially by Professor Brånemark, who installed the first dental implants in Sweden in the beginning of the 1970s. The first dental implants in Finland were installed in Turku and Helsinki in 1981. The development world-wide has been very rapid and new innovations are constantly emerging in the areas of both methods and materials. Over 200 brand names of dental implants are already in use in the world, and the brand names cover a large range of various types of products. About 20 brand names are in use in Finland at present, the three most common of which cover about 75% of the market.

The reasons for setting up a dental implant register were largely the same as those for registering endoprostheses. It is a question of a dental care method which will rapidly-come into common use and which is associated with complex new techniques as regards both materials and product development. The users of dental implants are required to have quantities of new information about oral surgery, roentgenology, and prosthetics as well as parodontology. New laboratory techniques are also involved in the dental technical work. The most important and difficult task, however, is the correct selection of patients for whom the new, relatively costly, and also difficult, method is appropriate. It should be possible to assess the total risks involved with the method so that the patient is able to take advantage of and fully comprehend the information in question and capable of correct occlusion which is even financially valuable. Above all, it is a question of patient safety which is aimed at improving the patient's well-being and quality of life.

Research results for each brand name may not necessarily be generally applicable in a situation where the implants are becoming more widely used and involving the entire medical profession, in which case the group of prescribers will be less homogenous. Only extensive, continuous monitoring will reveal the rare risk situations, patient injuries and product defects which will have consequences for patient safety and which may elude the experience and knowledge of an individual prescriber throughout his or her entire professional career. The register is intended to provide the users with up-to-date information on the progress of dental implants and the success of treatment. A dental implant should retain its good functional properties for several decades. Even today, a 100% success rate is not possible with implants. A risk of failure is possible under many circumstances.

The dental implant register today contains data on 50,000 installed implants. This is the first nationwide registered file in the world. The material contained in it is exceptionally extensive. There are, in fact, several large filing projects also under development in other countries. The Danish national file is probably likely to be completed next. The Finnish National Agency for Medicines has had the opportunity to elaborate on the problems involved in the collection and processing of registered data, and the Agency has played a part in helping other national registers to be set up. A Nordic register has good prospects of success. The training of the medical profession is very similar and patients are well within the reach of the Nordic health care system. Change of domicile by patients is relatively infrequent, and

each individual is identifiable in the health care register. Very few countries have similar possibilities.

The use of dental implants has increased. In 1995 the register contained data on 3,000 implants and in 2000 it already included data on almost 10,000 implants involving about 5,000 operations. The brand names of dental implants most commonly used in Finland are ITI (Straumann), Astra and Bio Care (Brånemark). There are two or three Finnish manufacturers, and the number of brand names totals 20. The brand names of dental implants have been retained on the Finnish market for a relatively long period of time, but one should be prepared for changes as development of each brand name proceeds and the structure of various components is constantly changing.

According to the register, about 800 dental implants have been lost within six years of use; this accounts for 2% of all installed implants. Various publications have reported 2–7% losses after 5–10 years of use. These reports are difficult to compare directly with the data of the National Agency for Medicines because of the different circumstances that prevailed and the different ways of collecting the data. A careful assessment would conclude that the success rate of results in Finland is very comparable to that of other countries. The percentage of failures and complications appears to have decreased during recent years, which is probably a sign of improved expertise. Not only front teeth but all types of teeth have been replaced with dental implants. The installation of implants in the elderly has increased.

Last year, dental implants were installed at about 300 different dental surgeries or hospitals. Only about 10% of the dental implants were installed in the public health sector, and about half of them even in hospital. In practice, the installation of implants is to a large extent concentrated in private dental surgeries. The number of implant installers was 160. Only 20 of them carried out more then 50 dental implant operations a year, and 50 of them less than 5 operations a year; this can be considered as insufficient for the maintenance of professional skills. Several extensive studies have shown that the first nine operations are associated with complications distinctly more frequently than subsequent operations. In the near future, serious discussion is likely to become necessary to establish the number of operations required to produce sufficient experience and skills to use dental implants. Discussion is also likely to be needed to establish who should be members of a dental implant working group in order to fulfil the necessary quality criteria.

Judging from the sales figures of dental implants, not all those carrying out implant operations have remembered to report them to the register. Consequently, the dental implant register does not cover all implants installed in the country.

It would be of vital importance for the register that information as up-to-date as possible should be collected on all implant operations. The register is in principle only as good as the reports contained in it.

An English publication of the data of the dental implant register prepared by the National Agency for Medicines on the dental implants installed and used in Finland during 1994–2000 is available on the Internet at website www.nam.fi/; it is called the 2000 Dental Implant Yearbook.

Translation Mervi Moisander