Number 10, June 2005

Incidence of mesothelioma: Previsions revisited

A recent study, signed by scientists H.Weill (Medicine, Tulane University, New Orleans, USA), J.M. Hugues (Biostatistics, Tulane University, New Orleans, USA) and A.M. Churg (Pathology, University of British Colombia, Canada) proved, once again, that mesothelioma is basically due to an exposure to amphiboles.

The scientific conclusion of this study (Changing trends in US mesothelioma incidence) is quite simple and goes like this:

"Increasing male mesothelioma incidence for many years was undoubtedly the result of exposure to asbestos. The high mesothelioma risk was prominently influenced by exposure to amphibole asbestos (crocidolite and amosite), which reached its peak usage in the 1960s and thereafter declined. A different pattern in some other countries (continuing rise in incidence) may be related to their great and later amphibole use, particularly crocidolite. The known latency period for the development of this tumour provides biological plausibility for the recent decline in mesothelioma incidence in the USA. This positive favourable finding is contrary to a widespread fear that asbestos related health effects will show an inevitable increase in coming years, or even decades."

Of the major asbestos related diseases, mesothelioma is the most sensitive and specific indicator of the adverse health effects that have resulted from airborne exposure to asbestos fibres mixes, containing amphiboles. On the other hand, asbestosis and asbestos attributable lung cancer have been found to be linked and, in the case of the former, has unquestionably become far less prevalent in recent decades – newly diagnosed cases being extremely rare – and, in the case of the latter, in the absence of asbestosis, is likely to be caused by cigarette smoking.

In the U.S.A. male mesothelioma cases increased from 1973 and the beginning of the 90s, but decreased thereafter.

The median latency period (time between first exposure and clinical manifestation of the tumour) is around 30 years.

Reduction to exposure, particularly to amphibole asbestos, is expected to result in diminishing mesothelioma incidence beginning about three decades after reduced exposure. In the US, peak mesothelioma incidence occurred in the early mid-1990s and has likely started to decline since then. This is probably primarily related to reduction in amphibole use since its peak importation into the USA in the 1960s.

Mesothelioma incidence may still be rising in some European countries and Australia, probably related to greater and longer use of amphibole asbestos.

A report in 1995 projected a later peak for mesothelioma rates and greater magnitude of cases in the UK than in the USA. The analyses, based on male rates only, indicated that 'the timing of the peak in the US epidemic reflects the pattern of asbestos use, which reached a plateau soon after World War II'. […]

It is noteworthy (and possibly explains the different mesothelioma temporal patterns) that in the 1970s, amphibole use in the UK actually exceeded that in the USA. Furthermore, the UK made extensive use of crocidolite, which is considerably more potent than amosite as a cause of mesothelioma, while most commercial amphibole used in the USA was amosite. […]

The actual incidence rates for both sexes are considerably higher in Australia than in the USA, again perhaps reflecting heavy past crocidolite use in Australia.

In France, asbestos use peaked around 1975. However, no register containing information on mesothelioma incidence exists and since this diagnosis is not categorised as such on death certificates, pleural cancer deaths were used to estimate mesothelioma mortality.

"In conclusion, mesothelioma incidence rates have generally been declining in the United States during the 1990s, after increasing in the 1970s and 1980s. While perhaps contrary to the widespread perception that the asbestos induced health effects are continuing a long term pattern of increase, this reassuring favourable trend is what one would expect, taking into account latency of the tumour along with decreased levels of total asbestos and, in particular, amphibole exposures during the past three decades (the peak US use of amphibole asbestos occurred in the 1960s). Given the fact that changes in mesothelioma incidence are probably the clearest measure of the extent of asbestos related disease, these trends strongly indicate that the overall burden of asbestos health effects in the USA is waning, a pattern that would be expected to continue in the future."

Source: Changing trends in US mesothelioma incidence. Occup Environ Med 2004; 61:438-441.

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EDITORIAL

Individuals and associations persist in spreading falsehoods and all too often, they only present one side of the asbestos story: indiscriminate banning of all types of asbestos.

First, only the chrysotile type, a natural fibre with low biopersistency is extracted from subsoil. Packed in sealed polyethylene or paper bags, palletized and shrink wrapped, chrysotile is shipped in containers to all parts of the world. 90 % of the fibres are used in manufacturing fibrocement (panels, pipes, shingles, etc.). The wet-process treatment used prevents dust from escaping. It is only when fibres are added to the chrysotile-cement mix that vacuuming and tubular filter bags need to be used upstream from the process. More than 60 countries, including emerging countries, have been using a proven process of this kind for nearly a century.

The "concerns" of the "anti-asbestos" lobby are often based on impressions or statistics that are hardly credible given the modern manufacturing techniques and non-friable chrysotile-based products. Friable asbestos flocking and insulation have not been used for 30 years, and the use of amphiboles is banned in most countries and is no longer commercially produced.

Many non-scientific publications on the so-called harmful effects of asbestos suffer from the same faulty assumptions:

1) They lump amphiboles and chrysotile together in terms of their effects on workers' health. Yet scientists now recognize that the two types of fibres have completely different impact and acknowledge that amphiboles are far more harmful because they are more bio-persistent in the respiratory system than chrysotile. Recent studies have also shown that amphiboles, along with working conditions no longer found today, were responsible for pulmonary diseases like mesothelioma. The non-scientific publications do not mention these facts.

2) These publications hardly ever quantify the co-carcinogenic and multiplying effect of cigarette smoking by workers exposed to dust. In addition, they fail to explain that the pulmonary problems found in some workers today are the result of excessive exposure to microfibrous dusts 25 to 40 years ago. Logically, the full impact of preventive measures introduced 20 to 30 years ago to minimize workers' exposure to fibrous dusts will only be apparent in 10 to 20 years from now. By then, workers who began their careers under healthier conditions will account for the majority of the cohorts under observation.

3) They confuse danger with risk. Using electricity can be dangerous, but the risk of being electrocuted is low if basic safety rules are followed. The same applies to fibrocement, where encapsulated fibres constitute no measurable risk to workers' health.

4) They do not put the risks in perspective. Every year, more than eight million people die for lack of sufficient good-quality water (Ref: "EAU" by Michel Camdessus, Bertrand Badré, Ivan Chéret, Pierre Frédéric Ténière-Buchot, published by Robert Laffont in 2004). Water pipes made of chrysotile cement are usually the least expensive and most readily available to emerging countries. Why should we deprive these countries of cheap, safe materials for building their infrastructures?

5) They neglect to mention the health and environmental hazards of asbestos substitutes. Yet some European countries are seriously considering banning certain uses of, for example, refractory ceramic fibres, an asbestos substitute, because of the risks posed to workers' health.

Drawing the conclusion that the risks of using chrysotile products like chrysotile cement or chryso-asphalt, are impossible to control is as ludicrous as claiming that it is impossible to use conventional cement-based concrete safely. For instance, concrete containing Portland cement has large amounts of crystalline silica, which is recognized as a carcinogen by the IARC (International Agency for Research on Cancer), but this risk is controllable.

Responsible use may be demanding but it works; imposing a ban is an easy way of avoiding responsibilities. Prohibiting the use of everything that poses a risk would not leave us with much in terms of quality of life.

June 2005

From AIA/NA to EPA

The Environmental Protection Agency of United States (EPA) is presently updating its risk assessment for asbestos. This review could result in more precise risk estimates for the different types of asbestos fibres. As said by the President of the Asbestos Information Association/North America (AIA/NA), Mr. B. J. Pigg, this effort is a part of the Integrated Risk Information System (IRIS). The IRIS is a database of human health effects that may result from exposure to various substances found in the environment.

Concerned by the EPA review and the fact that the CRC Committee of the Rotterdam Convention) pertaining to potential inclusion of chrysotile fibres on the Prior Informed Consent (PIC) procedure, Mr. Pigg recently sent a letter to the EPA, stating that the AIA/NA is persuaded that current scientific evidence demonstrates that chrysotile can and is being used safely and, again, there is no justification that it should be part of the Prior Informed Consent (PIC) procedure of the Rotterdam Convention or any other.

The EPA has now in hand the conclusions of three recent biopersistence studies. These studies, signed by toxicologists David Bernstein, Jorg Chevalier, Paul Smith, Rick Rogers (in 2003 and in 2004), stipulate:

- "Taken in context with the scientific literature to date, this report provides new robust data that clearly support the difference seen epidemiologically between chrysotile and amphibole asbestos (The Biopersistence of Canadian Chrysotile Asbestos Following Inhalation – published in November 2003);

- "As Calidria chrysotile (USA) has been certified to have no tremolite fibre, the results of the current study together with the results from toxicological and epidemiological studies indicate that the fibre is not associated with lung disease (Comparison of Calidria Chrysotile Asbestos to Pure Tremolite: Inhalation Biopersistence and Histopathology Following Short-term Exposure - published in December 2003);

- "These results support the evidence presented by McDonald and McDonald (1997) that the chrysotile fibres are rapidly cleared from the lungs in marked contrast to amphiboles fibres which persists (The Biopersistence of Brazilian Chrysotile Asbestos Following Inhalation – published in 2004)."

Further to the letter sent by Mr. Pigg, the EPA also received the results of a study entitled: Environmental and Occupational Health Hazards Associated with the Presence of Asbestos in Brake Linings Pads (1900 to present), signed by Dennis J. Paustenbach, Brent L. Finley, Elizabeth T. Lu, Gregory P. Brorby and Patrick J. Sheehan.

This study stipulates that all studies reviewed "indicated that these workers were historically exposed to concentrations of chrysotile fibres perhaps 10 to 50 times greater that those of brake mechanics, but the risk of asbestosis, mesothelioma and lung cancer if any, was not apparent, except for those workers who had some degree of exposure to amphibole asbestos during their careers."

As said by Mr. Pigg, the above references are in no way exhaustive, but they clearly demonstrate that there is no scientific or medical reason to justify the classification of chrysotile fibres with the most dangerous pesticides and chemicals listed, notably, in the Prior Informed Consent list of the Rotterdam Convention or any other list. Mr. Pigg also noted that "contrary to other products covered by the Rotterdam Convention, the use of chrysotile does not pose any environmental health hazard. It is apparent that the initial and continuing effort to include chrysotile on the PIC list comes from certain countries seeking a prohibition of the trade of chrysotile in order to benefit replacement fibres that they manufacture."

Let's recall that in Geneva, on September 18, 2004, the inclusion of chrysotile in the Prior Informed Consent procedure was rejected by a great majority of countries.

How to save 5 million € in one year?

Asbestos Watchdog (AW) has already saved U.K. property owners and businesses some five million pounds in the past 6 months. Indeed, in one year, AW registered over 5,000 complaints and visited over 1,000 sites containing ACMs.

For those of you who are hearing about Asbestos Watchdog for the first time, this organization is one of the few voices protesting against the shameless exploitation of the United Kingdom's law enforcing the removal asbestos everywhere. Asbestos Watchdog was set up a year ago with a mission to advise and counsel people confused by the hysteria promoted by the Health and Safety Executive (HSE)* - caused in large part by HSE considering that all forms of asbestos are potential killers, and not least by its extraordinary blunder when it included Artex in the regulations.

But what is Artex?
Artex a decorative plaster resembling paint, was widely used between the 1950s and 1970s. This textured plaster was used to decorate ceilings and walls in over 8 million homes and commercial properties. Artex contains approximately 2% chrysotile fibres. According to Asbestos Watchdog, Artex has been wrongly classed as an asbestos coating.

For example, here is the story of an owner of a seaside hotel at Saundersfoot (Wales), Mr. Andrew Evans. The HSE certified contractor, hired by Mr. Evans, told him he would have to pay 24,000 pounds to have the Artex removed from his walls (and again as much to redecorate). Thankfully for Mr. Evans, his architect recommended he go for a second opinion (Asbestos Watchdog) who demonstrated that the Artex contained no trace of asbestos, therefore the removal unnecessary and saved Mr. Evans almost 50,000 pounds.

As described in a Sunday Telegrah article (November 2004), one of the consequences of HSE's decision to remove asbestos everywhere, is that contractors can now make millions of pounds per year charging exorbitant sums to remove a substance which is, to all intents and purposes, harmless. Another consequence of the confusion surrounding Artex, is that countless homeowners are being told by inspectors, estate agents and building contractors that their home has lost up to a fifth of its value, or is even unsaleable, unless the Artex is removed by a certified contractor and at enormous cost.

Thankfully, due to research carried out by this one-year old UK organization, the HSE now confirms that Artex can be handled far more safely and inexpensively.

This initiative alone will save U.K. property owners over 18 billion pounds in the next few years. It will also terminate the current practice of mortgage lenders to refuse lending money on properties until the Artex has been professionally removed.

Unfortunately, complete success will have to wait since under the new European Union waste management regulations, the material is still classified as 'asbestos containing' and as such, remains a 'hazardous waste'.

**HSE: United Kingdom's version of the United States Environmental Protection Agency (EPA).*

WATCHDOG

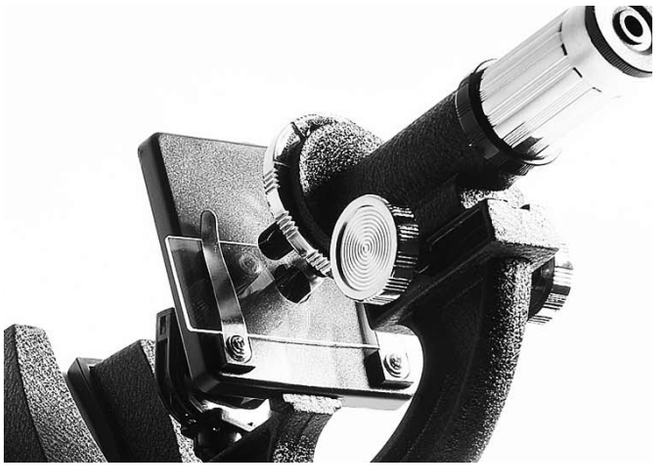
Who wants to pay?

Recently, Amicus (an important workers' association in Great Britain) was exulting at its court victory over three insurance companies in Manchester (UK). In this case, Mr. Justice Holland ruled that compensation can be paid to asbestos claimants with pleural plaques, calcified scar tissue on the lung. As mentioned in a Sunday Telegraph article, this gave the go-ahead to what Amicus estimates at 14,000 claims a year.

"The insurance companies lost a legal precedent case that would have proved that white asbestos, chrysotile, could not be a cause of plural plaques," says Asbestos Watchdog Chief Inspector, John Bridle. Indeed, in 1997, Dr. John Hoskins said that "plaques are merely scar tissue arising from a range of different causes, of which asbestos exposure is only one. They have no malign implications for health, and there is not a single case of a plaque arising from exposure to white asbestos, since its fibres do not persist long enough in the lung."

Yet Mr. Justice Holland made no distinction between white asbestos, constituting more than 90% of all asbestos products, and the harmful blue and brown forms of asbestos, a different mineral, wrote the Sunday Telegraph.

Amicus may now rejoice, but everybody should instead be worried since it is we who will have to foot the bill at the end.



Since this decision, Asbestos Watchdog (AW) has been conducting meetings with one of the biggest U.K. insurers. This is where AW uncovered the disturbing fact that their advisors are senior consultant doctors (whose names would be well-known to us all). It seems that it is they who have been responsible for drafting the position on asbestos for all UK insurance companies… and then, they step over to the other side and act as highly paid experts, for the defence lawyers. The judges are aware of their dual position but they have decided that this position makes them better able to give a balanced opinion…

"With the U.S. Chamber of Commerce wanting investigations into possible fraud between these senior doctors and the asbestos tort lawyers, it has the potential to become such a powerful media story, that the insurance companies will almost certainly be forced to re-evaluate their opinion on white asbestos," concluded Mr. Bridle.

Logically speaking: chrysotile cement pipes

Confusion has been wide spread for a long time concerning the use of chrysotile cement pipes. Let's set a few facts straight.

Used worldwide for over a century, chrysotile cement pipes are composed of 87 % cement and only 13 % chrysotile. Encapsulated, or locked-in to the cementitious matrix, the fibres are non-friable, and therefore the risk of fibrous emissions into air, nil. Considering the small amount of chrysotile fibres in the composition of the pipes; the fact that chrysotile does not persist into the lungs when inhaled; and, considering the stability of the cement matrix imprisoning the fibres, chrysotile cement does not pose an appreciable risk to human health or to the environment.

In parallel, it is requisite to recollect that the Quebec government has adopted a policy concerning the safe and increased use of chrysotile, and notably, chrysotile cement products. On one level, the USA Environmental Protection Agency (EPA) has no restriction on the manufacture, installation and use of chrysotile cement pipes. The World Health Organization (WHO) and International Labour Organization (ILO) are aware of the contribution of chrysotile cement pipes for the development of much needed infrastructures in the emerging countries.

Let's be realistic
For the sceptics, let's recall the biopersistence studies' results, studies realized by well-known toxicologists: David Bernstein; Jorg Chevalier; Rick Rogers; and, Paul Smith in 2003 and 2004. Of all the fibres analyzed, chrysotile was amongst the least persistent in the lungs. Indeed, when inhaled, the chrysotile fibres biopersistence is so brief that they disappear from the lungs without leaving any trace. The results of these studies were published in Inhalation Toxicology.

Chrysotile: Dependable
Chrysotile cement pipes installed over 100 years ago, are still in place and intact… contrary to their plastic peers that, according to certain information, often break.

Chrysotile cement products have exceptional resistance qualities. They are resistant to heat, mildew, pressure and time. Adding chrysotile to products will generally extend its lifetime.

More economical, better acoustic and insulating properties
According to various tests undertaken by manufacturers, chrysotile cement pipelines are more economic than cast iron. While comparing chrysotile cement pipes and PVC-DWV pipes, it appeared necessary to add an acoustic insulation to the latter to make them as efficient as the aforementioned. Finally, other tests have proven that chrysotile cement pipes were clearly superior for insulation against seepage.

Additional advantages
In summary: since the use of chrysotile cement pipes is safe and conforms to regulation; their longevity generally surpasses that of alternative products; they are usually less expensive; they are better acoustic; and their insulation properties superior, wouldn't it be pure nonsense to ban this product?

Make an intelligent choice.