Letters to the Editor

Letter to the Editor

Some reflections on talc poudrage

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We read with interest the well researched article of Stefani et al. [1] about the different techniques of intrapleural talc. This technical paper really filled the gap in our knowledge following established evidences of superiority of the talc itself [2,3] over other products.

We have a question and two comments. Could we be provided with data on the size of the talc particles? This intriguing question has its importance in the simple physical fact, that the size of contact surface of the individual particles and their absolute number are probably closely related to the mesothelial reaction created. One can expect, that the poudrage method with its carburettor like permeated cloud-like delivery creates highly homogenous dispersion of the talc particles. Some compare the endoscopic view to the snowfall. On the other hand, the degree of the dispersion in the slurry method depends largely on the time, patience and attention one pays while preparing the mixture. Therefore, while we have a properly standardised method on the poudrage arm, we need more information on the circumstances the slurry was delivered. Instead of disposable gas propelled atomiser one can use a puffer similar to those the beauty industry offers to deliver perfumes. One of us has memories from the early 1990s, when a metal cannister fitted with a rubber ball — called US Army model — was applied in the Frenchay Hospital, Bristol.

If somebody cannot afford disposable gas propelled atomiser there is another method to increase the degree of homogenisation of talc particles in the slurry. The idea is stolen from certain nail varnishes where a metal piece serves as homogenisator. Putting small calibre bearing balls into the slurry syringe makes the 1 min shaking more effective. Unfortunately enough, so far we were unable to convince the pharmaceutical industry the usefulness of a kit like this.

Finally, we think, that an article on the intrapleural use of talc [1] would not be complete without citing Norman Bethune, the brilliant Canadian lung surgeon, who pioneered the usage of talc [4]. He helped the sufferers in the Spanish Civil War regardless of their uniform, and was the first in organizing a mobile blood transfusion service [5]. He died literally while his last breath went for his patients in China, in 1939. Bethune’s invention has been serving our patients since then, whose lives would be more miserable without his brilliant idea: the talc.

References


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Reply to the Letter to the Editor

Reply to Molnar and Rami-Porta

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We thank Dr Molnar and Dr Rami-Porta for their comments and questions [1]. The question about size of talc particles is definitely intriguing. In fact, one can expect that particle size may
influence pleural inflammation and extrapleural talc dissemination, affecting efficacy of pleurodesis and accounting for side effects, especially ARDS.

Mean particle size among talcs used in several countries ranges from about 10 to 30 μm [2]. Talc particles instilled into the pleural cavity cause local inflammation and can disseminate in extrapleural organs, leading to tissue damage and acute lung injury [3]. Ferrer et al. [4] compared pleurodesis by instillation of talc usually used for human treatment (mean diameter 8.3 μm) and talc with particles of larger size (mean diameter 12 μm). Normal talc elicited greater lung and extrapleural particle spread and more pleural inflammation and thickening than larger talc; however, both talcs were equally effective in obtaining pleurodesis. The authors concluded that, if ARDS is due to talc deposition, it is likely better to use talc with large particles, eliminating particles <10 μm. Maskell et al. [5] compared pleurodesis with ‘mixed talc’ (mean diameter <15 μm) to pleurodesis with ‘graded talc’ (most particles <10 μm removed). Mixed talc induced more lung and systemic inflammation and worsened gas exchange, thus the use of larger talc would reduce the morbidity of the procedure. Finally, among the talcs used in different countries, the lowest sizes correspond to talcs administrated in United States, where most patients who developed a post-pleurodesis ARDS were reported.

When assessing the particle size, different methods could give different results [2,4,5]: when investigating the granulometry of talc, it should be important to mention the analysis method.

In our study, we used the same talc for both poudrage and slurry procedure, a sterile, asbestos-free, calibrated talc, extracted from a mine in Luzenac (France). Granulometry was assessed by the same method for both preparations: average diameter was 14 μm, with 25% of particles <10 μm in both talcs. Thus, particle size did not represent a variable in our study, and we think that the difference in efficacy between poudrage and slurry remains related to the method of delivery of talc, the former creating an highly homogeneous dispersion of the particles. According to Ferrer et al. [4], the particle diameter of our talc is at low risk for ARDS, a complication that we did not observe.

In 1990s, we began our experience with talc poudrage by using a puffer similar to those used to deliver perfumes. It is more practical, easier, and faster to use. Moreover, disposable atomizers are easily available on the market and are not expensive.

Throughout the study, we applied a standardized method to prepare and deliver the mixture for talc slurry. Thus, the dispersion of the slurry depended rather on the ability of the patient to change position during the clamping time. We acknowledge that this may be a variable that we did not take into account; however, our group of ‘talc slurry’ patients was to small to further subgrouping.

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Letter to the Editor

Preoperative red sudan administration to locate thoracic duct lesion in videothoracoscopy

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The considerations of Christodoulou et al. [1] and Porziella et al. [2] concerning the ideal diagnostic and therapeutic approach to chylothorax raise an interesting debate. We would like to contribute with our experience to this discussion.

From October 2003 to November 2006 we observed 13 patients with chylothorax, 8 on the right and 5 on the left side: (a) 2 presented an iatrogenic origin (15%), due to an esophagectomy for carcinoma and a thymectomy for thymoma, treated by thoracotomy; (b) 11 were traumatic (85%), treated by pleural drainage and total parenteral nutrition for 7 days. This procedure had an excellent result in two patients (18%); the average time of hospitalization was 8 ± 1 day. In the other nine patients (82%) the use of 6 μg/kg/24 h of somatostatin by continuous endovenous infusion (four cases) or 100 μg/8 h of octreotide by subcutaneous injection (five cases) was carried out for a further 7 days. In three somatostatin (33%) and two octreotide (22%) patients recovery was obtained; thoracostomy tube was removed after 15 ± 1 day. In four patients (45%) the clinical patterns (dyspnea, fever, hypovolemia) associated to a persistent loss of chylo >200 mL/day, indicated the need for intervention. Method consisting in administration of 10 mL of red sudan by nasogastric tube and in supradiaphragmatic thoracic duct ligation 1 h later by video-assisted thoracoscopic VATS, with a pleural poudrage (4 g of Luzenac spray talc). Pleural drainage was removed after 5 ± 1 day from intervention; the resolution rate was 100%.