DOT for all patients with smear-positive pulmonary TB in London?

Supervised drug taking is frequently seen as the answer to rising levels of tuberculosis. Djuretic et al advocate directly observed therapy (DOT) for all patients with smear-positive pulmonary tuberculosis in London.1 At first sight it appears the experience of instituting DOT in New York City appears especially impressive, with a 21% reduction in case rates and 39% decrease in drug resistant isolates. However, these reductions occurred at the same time,1 as close attention was paid to drug regimens, the use of drug combinations, increased staffing levels, and the payment of incentives combined with the threat of imprisonment for persistent defaulters.1

The proportion of cases of tuberculosis in London that have recently been transmitted has been estimated at 14.4%.2 This is very low compared with 46% in New York City.3 The decreased incidence of tuberculosis in New York City was achieved entirely within groups where recent transmission was suspected. Over the same time period there was a 22% increased incidence among foreign born persons. Such people have contributed most to the recent increased incidence of tuberculosis in London.3

Randomised controlled trials have shown that direct observation either by a healthcare worker or family member does not improve treatment completion rates when compared with self-administered treatment.7,8 Furthermore, even with supervised drug taking, patients can still fail to complete treatment. In one study in Denver, 18% missed two consecutive weeks of treatment, continued treatment for more than 30 days beyond the expected date of completion because of defaulting, or were imprisoned as a threat to public health.7 In a review of randomised controlled trials to promote adherence, monetary incentives, home visits and attentive staff were important elements of successful programmes.9

The situation in London clearly requires action. The data, however, suggest different approaches to those taken in New York City (table 1). New entrant screening deserves greater attention, and a heightened awareness of tuberculosis in primary care could complement the current system.10 The tuberculin skin test has a poor specificity and sensitivity and we should investigate newer methods of diagnosing those patients with latent tuberculosis who have a high probability of progressing to disease.11 We should maintain our vigilance to prevent active transmission by treating those with infectious, smear-positive pulmonary tuberculosis rapidly and effectively. This can be complemented with well targeted contact tracing. Selective DOT is a part of this programme, but we would emphasise that each patient should be treated as an individual and treatment should be tailored to his or her needs.

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Guidelines on prevention of venous thromboembolism during long haul flights

The guidelines’ drawn up on prevention of venous thromboembolism and long haul flights should be welcomed, though seen in the light of incomplete evidence. We would like to draw attention to several points.


### References


### Table 1

<table>
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<tr>
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<tbody>
<tr>
<td>Incidence of TB</td>
<td>35/100 000 (Newham)</td>
<td>46 per 100/000 (Central Harlem)</td>
</tr>
<tr>
<td>Cost of TB services</td>
<td>£8 million(1) (£34.2 million)(4) &gt;£400 million(2)</td>
<td></td>
</tr>
<tr>
<td>DOT strategy</td>
<td>Selective</td>
<td>Universal</td>
</tr>
<tr>
<td>Completed treatment</td>
<td>87%‡</td>
<td>&lt;50%²</td>
</tr>
<tr>
<td>Relapsed TB</td>
<td>6–8%</td>
<td>51%</td>
</tr>
<tr>
<td>HIV co-infection</td>
<td>14%</td>
<td>38%§</td>
</tr>
<tr>
<td>Multidrug resistant TB</td>
<td>1.7%</td>
<td>19%¹⁷</td>
</tr>
<tr>
<td>Recent transmission</td>
<td>14.4%</td>
<td>48%²</td>
</tr>
<tr>
<td>Cause of increase in TB</td>
<td>New entrants (foreign born), elderly women, HIV/AIDS patients</td>
<td></td>
</tr>
</tbody>
</table>

*Estimated as £6k per TB patient and £60k per MDTTB treated. †Actually around 30% were receiving DOT. ‡Unpublished data, North East London TB Network, London TB Group and King’s College Hospital, South East London. §38% of all, 72% of those tested. ¹¹ Estimated as £6k per TB patient and £60k per MDTTB treated. ²Actually around 30% were receiving DOT. "Unpublished data, North East London TB Network, London TB Group and King’s College Hospital, South East London.”
question: what is the clinical significance of asymptomatic calf deep vein thrombosis in a low risk population? It is far from clear in such a low risk group that we need to treat such events, which weakens any guideline aimed at prevention. Unlike a postoperative patient, the traveler is mobile before and after flight as well as potentially during it.

Furthermore, considering the uncertainty of the evidence, it would be wise to advise passengers of potential side effects from our recommendations. It is not clear that passengers fall into the same category. While it may be prudent to mention possible side effects from long socks or support tights recommended for low risk passengers, it is also a shame that no study has looked at the effect of lifestyle measures such as mobility and hydration or, indeed, compared these to intervention with stockings or socks. Until further evidence emerges, can we promote the use of support tights or long socks in low risk passengers compared with the non-invasive measures of mobility and hydration? If we are to recommend intervention, it should reflect Scurr’s evidence and be compression stockings with warnings for thrombophlebitis.

In the passenger with a moderate to high risk of venous thromboembolism, the recommendations are for compression stockings and aspirin or anticoagulation. This is based on extrapolation from studies of postoperative patients, but it is not clear that passengers fall into the same category. While it may be prudent to mention unsubstantiated guidelines for high risk individuals, are we really going to recommend pre-flight aspirin and use of compression stockings for every individual on thrombectomy replacement therapy and the oral contraceptive pill? What will be the morbidity associated with aspirin use?

While we await further studies to answer our question, we agree that all at risk patients should be strongly recommended to take lifestyle measures. This information should be dispensed by airlines and public health authorities. There is no evidence for the use of knee socks in any group, and this recommendation should be dropped. Patients with low to moderate risk factors should be advised that compression stockings have reduced risk of thromboembolism in other situations, but that superficial thromboembolism can occur as a side effect. Any further intervention with aspirin or low molecular weight heparin can be offered to moderate to high risk individuals only on the basis that direct evidence is lacking and side effects are possible.

Finally, when making the recommendations, patients should be warned that case studies report an increased risk of thromboembolism in long distance travel, not just long haul flights.

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References
5 Author’s reply
We appreciate the interest expressed by Drs Campbell and Rayner in the BTS’s fit to fly guidelines and welcome their valuable comments. We would like to clarify the issues they raised.

Firstly, we agree that the clinical significance of asymptomatic calf deep vein thrombosis in a low risk population is as yet unclear, and for this reason we avoided didactic advice while awaiting further evidence. Our recommendations were that physicians may wish to recommend low to moderate risk individuals or non-elasticated long socks in patients at increased risk of venous thromboembolism. The physician’s decision will depend on individual circumstances, including patient preference.

Secondly, Drs Campbell and Rayner raise the issue of superficial thromboembolitis which developed in 3% of passengers who wore below knee elastic compression stockings. The significance of this result, as indicated by the confidence intervals, is unclear, and our recommendations did not include such stockings. Rather, we suggested the possible use of non-elasticated long socks which are less likely to compress varicose veins in the knee region.

Thirdly, we agree that further studies are required to examine the effects of lifestyle measures such as mobility and hydration, and our guidelines recommended further research into this area. With regard to the possible morbidity associated with a single tablet of low dose aspirin, we consider that this is likely to be very small.

Finally, regarding passengers on oral contraception, we have made it clear that the risk is not equal with all forms of contraception, and physicians and passengers will have to make their own decisions in the light of available evidence and individual circumstances.

The process of producing these guidelines has highlighted the fact that there are a considerable number of unknowns regarding flying with respiratory disease, and more research is clearly required.

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Endotoxin: does it have a role in prevention of lung cancer
The paper by Drs Douws, Pearce and Heed- crik provides an interesting overview of how endotoxin may interact in atopy and asthma. It discusses issues as to whether endotoxin plays a role in prevention of atopy and asthma or may, in fact, be a contributor to these respiratory diseases. However, readers should be aware that there is another important issue, although controversial, related to endotoxin and the lung—that is, does endotoxin exposure in some occupational groups result in reduced lung cancer rates?

There have been a number of reports suggesting that endotoxin exposure, mostly in organic dusts, results in reduced lung cancer risks. This reduced lung cancer rate was first identified in textile workers1 and later in agricultural2 and other groups3 exposed to endotoxin. Experimental studies4 have supported epidemiological findings and clinical trial5 have been undertaken to evaluate this agent and the effectiveness of its immuno- modulators in cancer treatments. Although the concept of a beneficial effect from occupa- tional exposure is not yet established, it is at least one other occupational epidemiological investigation of reduced lung cancer rates for a potentially better recognised anticancer agent (salicylate).6 Most investiga- tors disagree with any beneficial exposure as occupational exposure and attribute these findings to various forms of selection bias (healthy worker effect) and lower rates of smokers in study populations (compared with controls).

Certainly exposure to organic dusts and endotoxin does not occur without risk. There are numerous reports of the detrimental out- comes associated with such exposures. However, when various forms of bias are evaluated, there appears to be in some studies an inability to explain the reduced lung cancer rates.4

It is encouraged that scientists accept the concept that there is an alternative view for lower lung cancer rates in some study populations. Even though this challenges prevailing thought and conventional thinking, we must remember that tradition dies hard and the birth of a new idea requires a creative and innovative spirit.7

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References

www.thoraxjnl.com

PostScript

Thorax: first published as 10.1136/thorax.58.1.92 on 1 January 2003. Downloaded from http://thorax.bmj.com/ on April 11, 2022 by guest. Protected by copyright.
Urokinase in the treatment of childhood empyema

Thomson et al reported the first double blind placebo controlled study of intrapleural urokinase for the treatment of childhood empyema. They found a statistically significant reduction in hospital stay in the treatment group and concluded that "urokinase is a successful adjunct to the management of purulent pleural empyema." The primary management of childhood empyema is controversial with some groups advocating open decortication. However, because of reports of wound infection, air leaks and bleeding in open operations, there has been an increase in the potential for video assisted thoracoscopic surgery (VATS) as primary treatment for childhood empyema. We have recently embarked on a randomised prospective study to compare primary VATS with urokinase and chest drain in childhood empyema.

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References


Authors’ reply

We are pleased that Sit et al are interested in our controlled trial. We do not doubt that
video assisted thoracoscopic surgery (VATS) will have a role in a limited number of patients with empyema, but do not consider it first line treatment. The major limitation of VATS is that it is highly dependent on the skill of the operator and poor results in some centres were reported at the recent American Thoracic Society meeting. Good paediatric practitioners will be limited to a few major centres in the UK.

One of the strengths of our study was that we obtained excellent results using urokinase in a multicentre trial with very variable previous experience of the technique. Sit and colleagues should note that, of the five patients who had surgery in our study, three were in the control group; the need for surgery in the urokinase group was therefore only 6.6%. Our single centre experience (Oxford) of 69 consecutive patients with empyema treated with urokinase is a median post intervention length of hospital stay of 5 days (range 3–13) with only one patient needing surgical intervention (1.5%). These data should be useful in the power calculations needed before a comparative randomised trial of VATS versus urokinase is commenced.

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BOOK REVIEWS

Childhood Respiratory Infections


When opening a new book, a logical first place to start is the Table of Contents. Here one is immediately struck by the lack of logical order of the chapters. The topics covered suggest they were chosen by the authors to match their interests rather than in a concerted effort to cover subjects of importance or of recent interest in the field. Some newer topics appear to be missing—for example, there is no obvious treatment of metapneumovirus. Some “specialist” areas are covered—for example, “Respiratory infections following haematopoietic stem cell transplantation in children”—whereas others that might be expected such as mycobacterial infections appear to be missing. In fact, most of the important areas in childhood respiratory infections are covered in this book; it is just a challenge to find some of them.

The chapters themselves are generally easy to read and informative. I particularly liked the simple and separate descriptions of the roles of the innate and adaptive immune systems, together with non-immune factors in host defence that were included in the early chapters. The “Key points for clinical practice” included at the end of most chapters are likely to be particularly useful for most readers. The information in the chapters is up to date and strikes a nice balance between providing sufficiently detailed information to satisfy the informed reader and presenting important concepts simply enough to be understandable to the less well informed. The references are extensive and up to date.

Overall, this is an easy to read and informative book that should be of great interest to practising physicians, paediatricians, respiratory trainees, and medical undergraduates.

P D Sly

Clinicians’ Guide to Sleep Medicine


Those unfamiliar with the subject might be forgiven for thinking that sleep medicine is synonymous with obstructive sleep apnoea. However, in his excellent new book Professor Douglas demonstrates that disordered sleep can be caused by a surprisingly diverse range of diseases and environmental factors.

The book is well laid out, attractive, and not too thick! The material is covered comprehensively, in a style that is easily readable, using language that is clear and concise. The text is broken up into “bite size” chunks with numerous figures and illustrations interspersed throughout. Each topic is extensively referenced and suggestions for further reading have been included at various points for those interested in delving deeper.

Broadly speaking, the book is divided into two main sections. The first half concentrates on the causes of excessive daytime sleepiness with OSA and narcolepsy being addressed in great detail. The chapter on investigation of the sleepy patient is very useful and examines the role and scope of different tests. Management protocols are suggested and the author includes tips from his own clinical practice.

The second part of the book looks at many disparate issues in sleep. Topics discussed in this section include insomnia, circadian rhythms disorders (including jet lag and shift work), snoring, and miscellaneous causes of sleep disturbance. There is a particular emphasis on COPD and nocturnal asthma. The final chapter briefly reviews a selection of other medical conditions, the more noteworthy ones being neuromuscular disease, obesity hypoventilation syndrome, and Cheyne-Stokes respiration in heart failure.

I enjoyed reading this book and wholeheartedly recommend it to anyone (especially respiratory trainees) wishing to acquire a practical up to date understanding of the rapidly developing specialty of sleep medicine. Even those with years of experience in the field are likely to derive benefit and the later sections are relevant to all doctors.

M Chandri