Looking at transpulmonary thermodilution curves can be very useful to diagnose intracardiac shunts. However, a cross-talk phenomenon may result in a double-hump thermodilution curve wrongly suggestive of right-to-left intracardiac shunting. Therefore, the use of venous and thermistor-tipped arterial catheters on the same side and of the same length should be avoided in patients monitored with transpulmonary thermodilution.

Frédéric Michard, MD, PhD
Massachusetts General Hospital–Harvard Medical School
Boston, MA

Reproduction of this article is prohibited without written permission from the American College of Chest Physicians (e-mail: permissions@chestnet.org).

Correspondence to: Frédéric Michard, MD, PhD, Department of Anesthesia and Critical Care, Massachusetts General Hospital-Harvard Medical School, 55 Fruit St, Boston, MA 02114; e-mail: fmichard@partners.org

REFERENCES


Is the Recommendation Not To Use Rifampin Plus Pyrazinamide for Latent Tuberculosis Treatment Always Imperative?

To the Editor:

Following several reports of severe liver injury, the American Thoracic Society and the Centers for Infection Control and Prevention recently recommended to discontinue the use of rifampin plus pyrazinamide (RZ) as treatment for latent tuberculosis. Considering the limited choice of drugs proven effective for this purpose, in our opinion this advice, though judicious and precautionary, is a cause of major concerns. In the United States, the implementation of mandatory screening and treatment for LTBI in immigrants from high-prevalence countries actually encounters relevant difficulties because of the variable isoniazid (INH) resistance patterns among different countries, and of possible severe hepatotoxicity associated with antituberculosis drugs. High primary INH resistance rates have been registered among immigrants from Vietnam, South Korea, Haiti, the Philippines, and China. In fact, a decision analysis model

Figure 1. Transpulmonary thermodilution curves recorded after the injection of a cold saline solution bolus in the 20-cm femoral venous catheter (F) and in the jugular venous catheter (J). The double-hump curve is not explained by a right-to-left intracardiac shunt but by a cross-talk phenomenon: the decrease in blood temperature during the cold bolus injection is directly transmitted to the thermistor-tipped arterial catheter.
increased risk, such as HIV-positive subjects, RZ could be still
recommended. Nevertheless, based on a cost-effectiveness evaluation, we would
predict that RZ would be the most effective and the least expensive option for immigrants from Vietnam, Haiti, and the Philippines.2

This issue may be even more cogent in Europe, given the massive migratory flows from low-income countries and considering that, unlike the United States, HIV-positive legal immigrants, who are at higher risk for active tuberculosis, are not expelled. The European framework for tuberculosis control and elimination, including the recommendation of using INH for LTB treatment in specific groups, has been recently published.3 Nevertheless, in different European countries the origin of the immigrants’ population may vary, and consequently the level of INH resistance too. For instance, in a multicenter study4 in Italy, in 2000 primary INH resistance in immigrants was reported to be 9.4%. In a survey of patients referred to the General Hospital of Verona from January 2000 to June 2003, among 231 isolates of *Mycobacterium tuberculosis*, 28 of 41 of strains (68.3%) resistant to at least one antitubercular drug were from immigrants (23.9% of cases in this category of patients). Overall resistance to INH was detected in 23 strains (9.9%); 60.8% of these were isolated in immigrants from the African continent (mainly Senegal, Ghana, Ivory Coast, and Nigeria) who were infected by INH-resistant strains in 22.2% of cases. These data highlight that in the area of Verona, the INH resistance rate among immigrants is much higher compared to the national level. Therefore, the use of INH as LTB treatment could be inadequate in nearly one of four African immigrants. We believe that it is essential to evaluate the origin of immigrants in a specific area while preparing national and local guidelines for LTB treatment because of the possibility of different resistance patterns. Considering the high level of INH resistance in some endemic areas, regimens including rifampin should be recommended. Nevertheless, following the recent withdrawal of the RZ regimen in the United States, new options for LTB treatment are urgently needed. In the meantime, based on a cost-effectiveness evaluation, we would suggest that in young immigrants from high tuberculosis prevalence countries with known high INH resistance, especially if at increased risk, such as HIV-positive subjects, RZ could be still considered in absence of any hepatopathy.

Angelo Cazzadori, MD, FCCP
Benedetta Allegranzi, MD, DTM+H
Anna Searclighi, MD
Flavio Facari, MD
Ercole Concia, MD
University of Verona
Ospedale Civile Maggiore
Verona, Italy

Reproduction of this article is prohibited without written permission from the American College of Chest Physicians (e-mail: permissions@chestnet.org).
Correspondence to: Benedetta Allegranzi, MD, DTM+H, Divisione Clinico-Didattica di Malattie Infettive, Ospedale Civile Maggiore, P.le Stefani 1, 37126 Verona, Italy; e-mail: benedetta.allegranzi@univr.it

REFERENCES
3 Broekmans JF, Migliori GB, Rieder HL, et al. European framework for tuberculosis control and elimination in coun-

Care of Flexible Bronchoscopes
To the Editor

We experienced an unusual complication with two flexible bronchoscopes within a week. The following letter is meant to alert others, and is intended for both education and cost savings.

The flexible A-rubber sheath on the distal portion of the bronchoscope “ballooned,” and in one bronchoscope ruptured, during the sterilization process. As the repairs cost roughly $1,000 (Canadian dollars) per bronchoscope and this had never happened in our institution before, we set out to uncover the problem.

The following two simultaneous conditions were believed to be responsible: a failing check valve in the sterilizer; and the fact that the bronchoscopes had been placed into the sterilizer with a slight positive internal pressure following leak testing. A failing check valve can add as much as 6 to 7.6 lb per square inch of vacuum to the exterior surface of the bronchoscope. Any positive pressure that is left in the bronchoscope from the leak test procedure could add as much as 3.5 lb per square inch of pressure. Together, the additional pressure could cause dilation and/or rupture of the rubber sheath.

To prevent a repeat, we have emphasized the need for maintenance on any sterilizing equipment at least twice per year. As part of our ongoing quality assurance efforts, a check step to the leak test procedure has been added to ensure that no positive pressure remains prior to sterilization. By briefly installing a venting cap onto the bronchoscope following leak testing, all remaining positive pressure is removed. To facilitate this, an ethylene oxide cap was chained to the leak tester.

Although not a common problem, the cost of repair mandates an extra effort. We think that this simple step, which requires minimal time, no extra training, and the negligible cost of a venting cap, will prevent future damage. We encourage readers to consider their own bronchoscope-venting procedures.

Dennis Djogovic, MD
Peter G. Bridleley, MD
Dallas G. Schroeder, RRT
R.T. Noel Gibney, MD
University of Alberta
Edmonton, AB, Canada

Reproduction of this article is prohibited without written permission from the American College of Chest Physicians (e-mail: permissions@chestnet.org).
Correspondence to: Peter G. Bridleley, MD, Assistant Professor of Critical Care Medicine, 4H1.22, W.C. Mackenzie Health Sciences Centre, 8440 112th St, Edmonton, AB, Canada, T6G 2R7; e-mail: peterbridleley@cha.ab.ca

REFERENCE