in the REVEAL Registry French Comparison Cohort had PCWP \(< 15\) mm Hg. The conclusions drawn in the article about increasing age, obesity, and increasing female preponderance in patients with PAH in the United States remain true in these subgroups.

Finally, the comments from Drs Barnett and De Marco provide a welcome introduction to our analysis of the characteristics, changes in hemodynamics over time, and outcomes of the patients with expanded hemodynamic criteria included in the REVEAL Registry. These data will be forthcoming shortly.

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Cytokine Gene Expression After Lung Cancer Resection May Be Affected by the Choice of Surgical Access

To the Editor:

We read with interest the article by White et al1 in a recent issue of CHEST (March 2011), which proposed that based on cytokine gene expression, algorithms can be developed that may help identify patients who are at increased risk of hospital-acquired pneumonia following major lung resection. The authors acknowledged that the extent of tissue trauma can affect the inflammatory and immune response to surgery. It is noteworthy that the choice of surgical approach for the cancer resection has a significant impact on the extent of access trauma and the subsequent modulation of the immune response. Vittimberga and colleagues2 reviewed the literature on laparoscopy vs laparotomy and concluded that surgical trauma can cause a systemic inflammatory cytokine response, resulting in increased circulating levels of IL-1, IL-6, and tumor necrosis factor-α; however, the body’s response to laparoscopy is one of lesser immune activation as opposed to immunosuppression. Traditionally, lung cancer resection has been performed using open thoracotomy, but recently there has been increased use of video-assisted thoracic surgery (VATS).3 In patients with stage I non-small cell lung cancer who underwent lung resection either using VATS or open thoracotomy, we showed4 that the plasma levels of IL-6, IL-8, and IL-10 were elevated in both groups. However, the IL-6 and IL-8 levels were significantly lower in the VATS group at the end of surgery than in the open group. Moreover, reduced release of IL-10 was also observed in the VATS group.4 Craig et al5 also showed that compared with open thoracotomy, VATS was associated with lower C-reactive protein and IL-6 levels. In the study by White et al,1 the entire cohort underwent open thoracotomy.

A literature search failed to identify any study that addressed cytokine gene expression following lung resection as a function of different surgical access. It is probable that if the VATS approach was included, the postoperative cytokine gene expression might differ depending on the choice of surgical access, and this may have important implications for the proposed algorithm to identify patients at increased risk of postoperative pneumonia. Further studies are needed to investigate whether the extent of tissue trauma caused by VATS vs thoracotomy may result in different cytokine gene expression. If this is confirmed, then the treatment algorithm suggested by White et al1 should be constructed taking into account the impact of different surgical approaches.

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Response

To the Editor:

We appreciate the comments by Dr Hsin and colleagues regarding our recent study.1 It is indeed probable that the choice of surgical approach for cancer resection can influence the inflammatory and immune response to surgery, as we acknowledged in our article. To this end and to ensure the study was powered adequately, we restricted recruitment to open lung resection surgery because the incidence of postoperative pneumonia is substantial—25%2 as opposed to 3%.3,4

The authors suggest that the cytokine gene expression might be different depending on the choice of surgical access; however, we have no data to prove this point. They correctly note the lack of data detailing cytokine gene expression following lung resection as a function of different surgical access. However, it is notable that prior reports of cytokine response to thoracic surgery exclusively report levels of protein in the peripheral blood, reflecting inflammation on a global level. In contrast, we examined cytokine gene transcription in a distinct population of cells, namely peripheral lymphocytes, which we consider a reflection of immune response rather than inflammatory response to surgery.

IL-6 is produced by hepatocytes and endothelial cells,3 is readily measured in peripheral blood, and correlates with the severity of inflammation. However, cytokines that regulate the interaction of innate and adaptive immunity—IL-12 and IL-23—and cytokines that reflect T-cell activation—interferon γ—are not readily measured as proteins in peripheral blood, but can easily be assayed at the transcriptional level using a polymerase chain reaction.6,7 In sepsis and after thoracic surgery, gene expression of these cytokines in peripheral blood lymphocytes, which orchestrate and mediate an appropriate bactericidal immune response rather than an inflammatory response, are downregulated, reflecting an immune compromise state. In this response, we wish to emphasize the distinction between biomarkers of the inflammatory response and those of the immune response to surgery.

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References


Evidence Incorporating Patients’ Values

To the Editor:

In their recent correspondence in CHEST (February 2011), Goodwin and McVor7 described the case of a patient with poorly controlled severe asthma who had been noncompliant with physician visits and had inadequate self-management, with an emphasis on the use of cupping therapies. Empiric studies have suggested links between the use of complementary and alternative medicine (CAM) and poor medical outcomes and nonadherence to conventional medicine. Incorporating patients’ views and preferences to create a shared decision-making process between physicians and patients has been suggested as an essential way to address nonadherence and improve outcomes.2 Thus, patients’ views and motivations for using CAM, despite lacking relevant information would be worth exploring to improve the shared decision-making process with patients with strong preferences for CAM over conventional medicine.3

The authors also mentioned that none of the alternative therapies for asthma, including cupping, was efficacious. Previous research has shown little benefit of CAM compared with sham or placebo interventions. However, evidence of overall effectiveness, including the nonspecific effects of CAM compared with no treatment that might be important in a patient’s perspective, was lacking and was noted as a subject of future research in the Cochrane review.4 Because culture-specific interventions have shown promising results for patients with asthma compared with usual care regimens, it would be plausible to use evidence of CAM from pragmatic studies in those interventions for cultural minorities or for those with a preference to CAM. Given the definition of evidence-based medicine as “the integration of