The Risk of Overtreating Indolent Bronchioloalveolar Carcinoma

Bronchioloalveolar carcinoma, or BAC, is a subtype of lung adenocarcinoma that has a tendency to progress more slowly, stage for stage, than other types of lung cancer. There are many patients who experience symptomatic and significant progression over months, and rarely patients have a very aggressive and fulminant form of the disease. However, many patients with BAC experience slow growth that raises the risk of potentially overtreating it, with the possibility of detrimental effects from that.

As someone with a particular interest and expertise in BAC, I see the situation with BAC as being similar to the issues we face with prostate cancer. Once a blood test for detecting prostate cancer emerged (prostatic serum antigen, or PSA), it became possible to identify 200,000 men in the US per year who had prostate cancer. The problem is while a huge proportion of men will develop prostate cancer as they get older, many will have an indolent cancer that will not really threaten their survival, and for which treatment with surgery or radiation can have significant long-term side effects. A low grade prostate cancer is well known for being a cancer men can “die with, but not of”. In other words, men can have a prostate cancer that would never directly threaten them, and they can go on to a ripe old age before succumbing to heart disease or another non-cancerous condition.

I haven’t forgotten that this website is about lung cancer and not prostate cancer. My point is that BAC, unlike other forms of lung cancer, brings up the same kind of dilemma. We know that there are some very threatening, aggressive cases of BAC, but many others can be incidentally detected and be very…pokey (not a technical term). So treating BAC like every other kind of lung cancer, which would involve removing a lobe of the lung or perhaps the entire lung, has a real risk of making the treatment worse than the disease. BAC tumors have a tendency to grow slowly over time, and if they’re surgically removed, you can have another BAC come up many years later, unlike other types of lung cancer where you either develop a recurrence within the first 2-3 years or you probably never will. With BAC, you can develop another, likely related BAC lesion 5 or more years later. But it may grow so slowly that it causes no symptoms and is no threat to a person’s life for another 5, 10, 15 years, or perhaps until that person is over 90. But you can make that person symptomatic if you remove enough good lung tissue every time they develop a 5-10 mm BAC lesion. That patient may find themself really missing that good lung tissue that was surgically removed as a lobectomy 5 years ago (perhaps their 2nd lobectomy for BAC) if they develop new BAC in the remaining lung.

A case in point is a 75 year old man with several significant medical problems, including heart disease and diabetes, who had undergone a left upper lobectomy for a small (1.1 cm) BAC 4 years before I met him. In regular follow-up after that, a new right upper lobe nodule was detected, and over the next two years it grew from 5.5 to 7.5 cm. It was in the center of the lung, therefore not easy to biopsy.
While we would standardly want to biopsy this and remove it surgically if it is cancer, and that is definitely a reasonable option, I would just note that at the very slow rate of growth we’re seeing, his other medical problems will likely provide to be the greater threats over the next 5-10 years. This is very likely a recurrence of BAC, but if we watch it, it is likely to remain an asymptomatic small nodule for years to come. That said, removing it is certainly reasonable, although I would strongly urge that if surgery is pursued, a wedge resection to minimize loss of good lung tissue would be my preferred approach over a lobectomy.

Japanese researchers have been the ones who have primarily recognized that well-differentiated BAC lesions are very unlikely to progress into lymph nodes or spread outside of the chest. They have been doing studies with smaller surgeries for BAC, but at this point we don’t have proof that they produce equivalent results to the more extensive standard surgeries we usually do for lung cancer. In the US, there are studies just getting started asking similar questions of whether less extensive surgeries are appropriate for such cases.

At the same time, there are patients with multiple nodules that recur after surgery for BAC. In such cases, surgery is really not feasible for multiple spots, and the cornerstone of treatment is chemotherapy or targeted therapy like EGFR inhibitors/tarceva. However, I often recommend to asymptomatic patients that we follow scans off of treatment initially, generally every 3-6 months to start with. In many of my patients, they feel completely well and show minimal change on scans for years at a time, without any treatment. We could start chemo or tarceva immediately, but I wouldn’t want to waste a potentially valuable treatment, still likely to have some side effects, if a patient may go years before needing any treatment. Since tumors tend to become resistant to all of these therapies after months or years at most, I'd rather keep them available for when things are growing and we really need them.

The observation approach isn’t right for every patient. I wouldn’t want my patient to be disabled by anxiety due to “not doing anything” about their cancer. But BAC, unlike most other lung cancer types, has the potential to be a chronic disease, and that means that it makes sense to consider when to use the finite resources of effective treatments available, and also to see whether it will actually impact a patient’s health in the context of their entire clinical picture.