

Letter to the Editor

Grouping of molecularly targeted anti-cancer agents based on cost-effectiveness analysis

Dear Editor,

One of the challenges in clinical oncology today is how to cost-effectively treat patients with molecularly targeted anti-cancer agents. In the hope that the novel drugs may have higher activity and lower toxicity than “older” antineoplastic agents, patients and the scientific and medical communities have pushed the health-care systems to accelerate their approval for clinical use. However, the high cost of molecularly targeted anti-cancer treatments constitutes a substantial obstacle to their widespread use, which poses significant challenges to clinicians who care for patients with cancer. For instance, the cost of FOLFOX (folinic acid, fluorouracil, and oxaliplatin) and bevacizumab for the treatment of a very common disease, such as metastatic colorectal cancer, has a considerable economic impact¹⁻³.

To overcome this critical issue, one of the first goals is the identification of patients who are most likely to benefit from these treatments through predictive and prognostic factors. Global negotiations, such as those implemented by the European Medicines Evaluation Agency network (EMA), will likely be more helpful and effective than those undertaken by individual groups. For instance, within the European Union, different countries have different attitudes to bevacizumab, although EMA has approved it for treatment of colorectal cancer, non-small cell lung cancer, breast cancer and renal cancer: in Great Britain bevacizumab has not been approved for use against any of those neoplastic diseases (NICE guidelines)⁴, whereas in Italy the Italian Medicines Agency (AIFA) and Roche have recently negotiated a “risk-sharing” agreement for a 50% reimbursement of the cost of bevacizumab for the first 6 weeks of treatment⁵.

Molecularly targeted anti-cancer agents really differ based on their impact on survival in patients with different tumors.

“Imatinib-like drugs”, i.e., agents like Imatinib that are employed successfully against chronic myeloid leukemia⁶ and GIST⁷, have highly improved survival. “rituximab- and trastuzumab-like drugs” used for the treatment of lymphomas⁸ and breast cancer⁹ that have a rather good impact on survival.

Conversely, “erlotinib-, gefitinib-, cetuximab-, bevacizumab-like drugs used”, for example, against lung¹⁰ and gastrointestinal tumors¹¹ have a medium impact on survival (a few months).

From an economic point of view, the cost of the treatment of patients with drugs in the last group will be relatively high because of their poor impact on cancer survival, whereas the treatment with drugs in the previous groups will be really cost-effective as a result of their higher impact on survival.

Then, we strongly suggest that the EMA approves only drugs that have a favorable impact on survival by prolonging it of at least six months, and reject those that only have a poor impact on survival by prolonging it of just a few months or even weeks.

This theoretical proposal, that would be beneficial for ethical and economic reasons, would allow a higher number of European patients to be treated with the same drugs. At present access to treatment is not equally distributed across the EU, and some European citizens are prevented from receiving a new antineoplastic agent. Different local policies and costs are discriminating patients within the EU.

Moreover, we think that more information, regarding tumor biology characteristics, are needed to choose the right target anticancer treatment to obtain the best result, in terms of objective response, progression free survival and finally overall survival. We believe that this way is the only solution to optimize the pharmaceutical costs and to yield the financial of the public health sustainable.

References

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