Poster 154

COST OF ADVERSE EVENTS MANAGEMENT ASSOCIATED TO THE TREATMENTOF FIRST-LINE METASTATIC RENAL CELL CARCINOMA WITH BEVACIZUMAB + INTERFERON ALPHA-2A COMPARED WITH SUNITINIB IN SPAIN

Abstract 7.141

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ECCO 15 ESMO 34 2009

BACKGROUND

The burden of metastatic renal cell carcinoma (mRCC) is substantial for patients and and society [1]

Targeted therapies are used in the treatment of metastatic renal cell carcinoma [2]

The combination of bevacizumab (BEV; Avastin®) + interferon alpha-2a (IFN) has shown to prolong the time to progression-free survival and to have comparable efficacy to sunitinib (SUN; Sutent®) in patients with mRCC [3]

However, the type and frequency of adverse events (AEs) differ between BEV+IFN and SUN and therefore it is of importance to explore the costs linked to the management of AE for both treatment alternatives in the daily clinical practice [4]

OBJECTIVE

To evaluate the costs associated with the management of AEs in the current clinical practice when using BEV+IFN or SUN for mRCC, from the Spanish public hospitals perspective

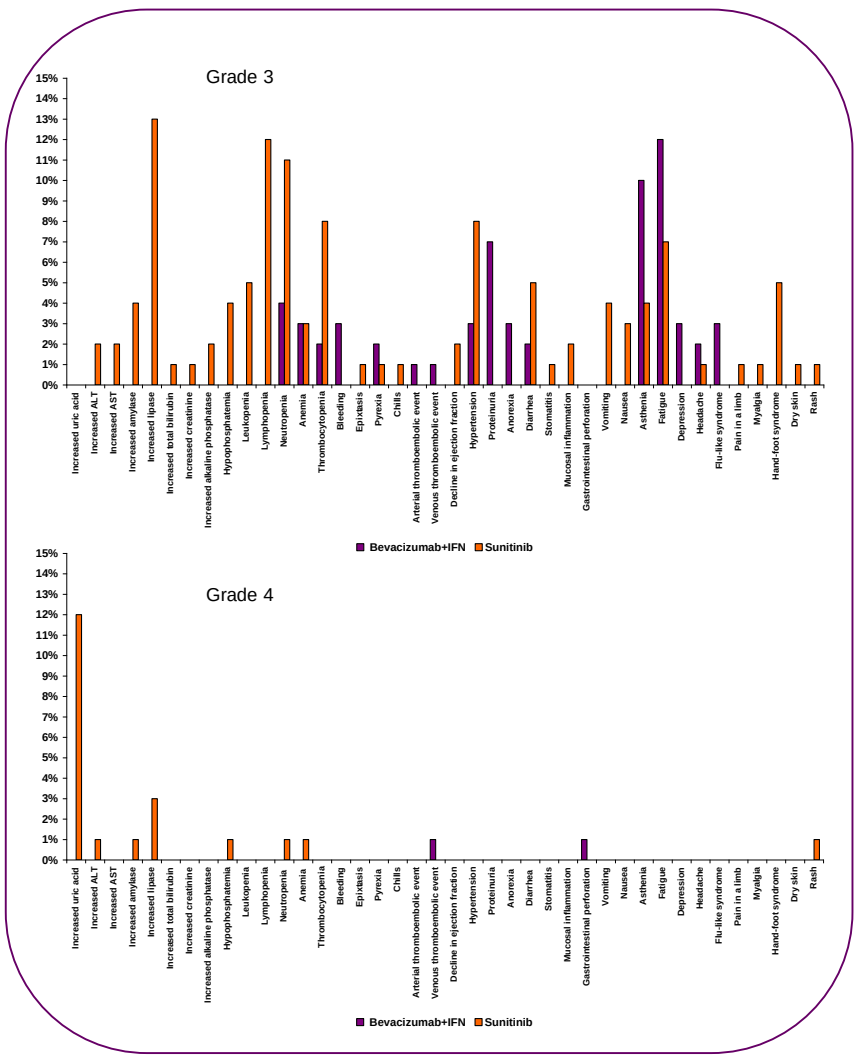
METHODS

Model design

An economic decision analytic model was developed to compare the costs related to the management of grade 3/4 AEs in patients with mRCC on treatment with BEV+IFN or SUN.

As no head-to-head comparative trials are available for both therapies, this indirect safety comparison was based on two clinical trials [5] [6]; in both studies patients baseline demographic and clinical characteristics were comparable. Grade 3/4 AEs, from all treatment-related AE of interest and those occurring in at least 10% of patients with SUN and those with an all grade incidence > 2% with BEV + IFN were considered and their type and frequency included in the model (see Fig 1).

Figure 1: Incidence of AEs grade 3 and grade 4



Resource use and cost estimation

Estimation of resources used for the management of AEs in daily clinical practice were defined by an Oncology Expert Panel using a formal Delphi process, with oncologists participating in several consensus meetings and structured e-questionnaires to collect data.

CTCAE v3.0 criteria was used to define the severity of AEs to ensure homogeneity and support final data quality and validity

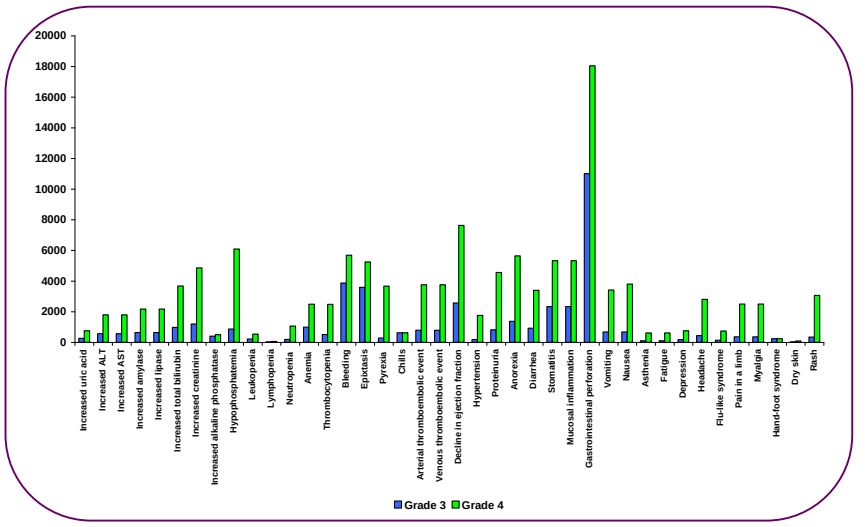
Cost evaluation (€, 2009 values) included direct medical costs: outpatient visits, diagnostic and laboratory tests, hospitalizations, surgery, and medication.

Unitary cost data were collected from a Spanish health cost database [7] for health care resources and from the Spanish Catalogue of Medicinal Products [8] for drugs.

RESULTS

The cost of managing AEs grade 3 / 4 are presented in Figure 2

Figure 2: Cost of managing AEs grade 3 / 4



Average cost of managing grade 3/4 AEs per patient was **€568 for BEV + IFN and €940 for SUN;** the use of BEV + IFN represents therefore a 40% cost saving (€371 per patient) in terms of AEs management (see Table 1)

The main drivers (representing approximately 83% of all costs) for BEV + IFN were associated to the management of gastrointestinal perforation (32%), bleeding (20%), proteinuria (10%), venous thromboembolic event (8%), anorexia (7%) and anaemia (5%)

The main drivers (representing approximately 83% of all costs) for SUN costs were related to the management of laboratory abnormalities (44%), anaemia (6%), mucosal inflammation (5%), decline in ejection fraction (5%), diarrhoea (5%), thrombocytopenia (4%), rash (4%), epixtasis (4%), neutropenia (3%) and vomiting (3%)

The difference in costs between the two regimens was mainly due to a greater number of AE with SUN than with BEV+IFN, and cost and incidence of laboratory abnormalities, gastrointestinal perforation and bleeding in treatment arms.

Table 1: Average cost of managing AEs per patient (€)

	Bevacizumab+IFN	Sunitinib
Increased uric acid	0,00	90,99
Increased ALT	0,00	29,19
Increased AST	0,00	11,2
Increased amylase	0,00	47,54
Increased lipase	0,00	149,04
Increased total bilirubin	0,00	9,75
Increased creatinine	0,00	11,99
Increased alkaline phosphatase	0,00	8,05
Hypophosphatemia	0,00	95,67
Leukopenia	0,00	11,02
Lymphopenia	0,00	3,11
Neutropenia	7,84	32,16
Anemia	29,77	54,67
Thrombocytopenia	10,20	40,82
Bleeding	116,31	0,00
Epixtasis	0,00	35,9
Pyrexia	5,57	2,79
Chills	0,00	6,27
Arterial thromboembolic event	7,94	0,00
Venous thromboembolic event	45,48	0,00
Decline in ejection fraction	0,00	51,42
Hypertension	5,56	14,82
Proteinuria	57,54	0,00
Anorexia	41,26	0,00
Diarrhea	18,48	46,21
Stomatitis	0,00	23,32
Mucosal inflammation	0,00	46,64
Gastrointestinal perforation	180,45	0,00
Vomiting	0,00	27,26
Nausea	0,00	20,34
Astenia	10,68	4,27
Fatigue	12,81	7,47
Depression	5,31	0,00
Headache	8,73	4,37
Flu-like syndrome	4,25	0,00
Pain in a limb	0,00	3,57
Myalgia	0,00	3,57
Hand-foot syndrome	0,00	11,88
Dry skin	0,00	0,26
Rash	0,00	34,08
Average cost per patient	568,18	939,62

CONCLUSIONS

- **The costs of managing grade 3/4 adverse events are substantially lower (estimated in a 40%) for bevacizumab + interferon alpha-2a than those for sunitinib in patients with metastatic renal cell carcinoma in Spain**
- **The safety profile of novel therapies used to treat patients with metastatic renal cell carcinoma may impact in the therapy choice, therefore physicians and healthcare payers should consider it as an important factor.**

REFERENCES

[1] Gupta K, et al. Epidemiologic and socioeconomic burden of metastatic renal cell carcinoma (mRCC). A literature review. Cancer Treat Rev 2008; 34, 193-205. [2]. Rini BI, et al. Clinical effect and future considerations for molecularly-targeted therapy in renal cell carcinoma. Urol Oncol 2008;26:543-9. [3]. Mickisch GH, et al. Metastatic renal cell carcinoma: a comparative effectiveness assessment of first-line bevacizumab+interferon alpha-2a vs sunitinib. ESMO 15 ECCO 34 2009. [4]. Mickisch G, et al. Cost of managing adverse event using first-line bevacizumab + lower-dose interferon alpha-2a in patients with metastatic renal cell carcinoma in Germany, France and the UK. ASCO 2009. [5]. Escudier B, et al. Bevacizumab plus interferon alfa-2a for treatment of metastatic renal cell carcinoma: a randomised, double-blind phase III trial. Lancet 2007;370:2103-11. [6]. Motzer RJ, et al. Sunitinib versus interferon alfa in metastatic renal-cell carcinoma. N Engl J Med 2007;356:115-24. [7]. Oblikue Consulting. Base de Datos de Costes Sanitarios e-Salud. Available at: http://www.oblikue.com/bddcostes/. [8]. Consejo General de Colegios Oficiales de Farmacéuticos. Catálogo de Medicamentos. Consejo Plus 2009. Madrid. Available at: http://www. portalfarma.com