THE ROLE OF DNA SEQUENCING AND MOLECULAR TUMOR BOARD COUNSELLING IN THE SELECTION OF THE MOST APPROPRIATED THERAPY IN ONCOLOGY

M. Anghilieri[1] , F. Guidoni[1], V. Ladisa[1]

[1] Fondazione IRCCS Istituto Nazionale Dei Tumori di Milano, Farmacia Ospedaliera Milano, Italy.

FONDAZIONE IRCCS ISTITUTO NAZIONALE DEI TUMORI

Sistema Sanitario Regione Lombardia

WHAT WAS DONE?

Hospital Pharmacists (HPs) are integrated into the Molecular Tumor Board (MTB), a multidisciplinary group, to select the most appropriated therapy for oncology patients, ensure and facilitate patient access, and demonstrate therapeutic appropriateness found by MTB analisys.

WHY WAS DONE?

The new DNA sequencing techniques, globally defined "Next Generation Sequencing (NGS)", allow the parallel sequencing of many samples producing in short times a big amount of data. To enable comprehensive analysis of the data and develop new specific and clinically useful therapies, we have introduced the approach of evaluating the data by the Molecular Tumor Board (MTB), which includes pharmacists as experts in drugs and their use.

HOW WAS IT DONE?

MTB members, including HPs, process DNA/RNA sequencing performed on each patient using NGS to identify known/unknown alterations. These data are entered into a database available to all MTB members and are the basic tool for selecting potential target therapy. The MTB meets once a week to discuss and integrate the observed DNA/RNA alterations with the patient's clinical history. In this way, the most appropriate target therapy for the patient can ultimately be selected. The HPs then assure patient's access to medications.

WHAT NEXT?

MTB offers a valid support in the clinical practice and it individuates a target therapy for a greater number of patients. The inclusion of HPs in MTB allows for more deliberate use and better selection of drugs. HPs provide valid support to select drugs and facilitate access to them: HPs individualize the applicable therapy for a larger number of patients through MTB, they analyze the therapeutic outcome (MTB-selected therapy has a bigger chance to last longer) and the cost impact on NHS.

WHAT HAS BEEN DONE?

208 patient affected by NSCLC

DNA sequencing

Identify 117 alterated genes

Extensive literature search

KRAS	ERBB2	EGFR
ALK	MET	PIK3CA
BRAF	ROS1	IDH1
NF2	MTAP	BRCA2
EML4	RET	NTRK1

15 genes found as potential target for available drugs

They marks

116 patients potentially tractable with target therapy

47 patients candidate to target therapy already in clinical practice	69 patients candidate to target therapy not in clinical practice
65% started the treatment	23% started the treatment
53% continues	69% continues

eahp

CPS12429