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Letter to the Editor

Formyl peptide receptor 2 mediated chemotherapeutics drug resistance in colon cancer cells. Point of view from pharmacogenetics field

Dear Editor,

we read with great awareness the article titled "Formyl peptide receptor 2 mediated chemotherapeutics drug resistance in colon cancer cells" by Su et al[1]. It could be a milestone in the "Era" of target therapies and personalized medicines. Colorectal cancer (CRC) is the second main source of cancer death in Western countries[2]. From the late 1995s the median overall survival (OS) for patients with metastatic (m) CRC has improved from about 10 to 18 months, in patients receiving 5-fluorouracil (5-FU)- irinotecan and oxaliplatin-based chemotherapeutic regimens[3-6]. The availability of targeted drugs has increased the OS of CRC to more than 25 months[7]. Su et al[1] reported the results of expression of formyl peptide receptor 2 (FPRL2) and its relationship with drug resistance in colon cancer cells.

It has become clear that successfully therapies approaches are wanted for specific genetic signature as EGFR and KRAS mutations in CRC. With the monoclonal antibodies expenditure, such as bevacizumab (anti VEGF) cetuximab/panitumumab (anti EGFR), and Nivolumab (anti-PD-1) the drug options were enhanced but, on the other hand, they have opened problems to overcome the emergent drug-resistances[8].

Currently, several phases 2/3 studies have investigated the addition of anti-EGFR targeted therapies to chemotherapy alone for the treatment of advanced CRC[9]. New biological agents with molecularly targeted therapies, currently included in clinical trials, are reported below (Table I). Moreover, we think that the genetics test improvements have provided exceptional opportunities to identify prognostic and predictive markers of the efficacy of treatments[10]. Pharmacogenomics testing may support clinicians to recognize patients who are vulnerable to severe treatment-related toxicities at standard doses, and also reduce the delay of the patient receiving the correct alternative treatment[11]. Pharmacogenomics knowledge is rapidly developing and changing, and it

Table I. New biological agents with molecularly targeted therapies, currently included in clinical trials for CRC.

- **Antiangiogenic agents** (i.e. anti-VEGFR)
  Bevacizumab, Sorafenib, Sunitinib, Cediranib, Ramucirumab
- **C-MET** inhibitors
- Cabozantinib, LY2801653, Onartuzumab, Tivantinib
- **EGFR** Inhibitors
  Erlotinib, Lapatinib, Afatinib, Panitumumab, Cetuximab
- **FGFR2** inhibitors
  BGJ398, Ponatinib, Brivanib
- **MEK** inhibitors
  Selumetinib, MEK162 (ARRY-438162)
- **IDH** inhibitors
  AG-120, AG-221
- **Mutated BRAF**
  Ipilimumab
- **PD-1** and **PDL-1** inhibitors
  Pembrolizumab, Nivolumab

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is imperative that healthcare professionals keep abreast of the advances and clinical indications[12]. It is well known that molecular genetics counseling performed before selected cancer treatment, provide lower overall medical costs and higher quality of life[13]. Su et al[1] concluded that this study could represent a new way increasing the drug-sensitivity of CRC. Finally, we believe that the right way to look these tasks is centered on a multidisciplinary treatment approach and to explain the costs of these treatments due to aimed-interventions[14].

Conflict of interest

The authors declare no conflicts of interest.

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