Editorial

The first conference of medical oncology and the fourth annual meeting of the Middle-Eastern Association for Cancer Research

The first conference of the Medical Oncology of Marrakech and the fourth annual meeting of the Middle-Eastern Association of Cancer Research (MEACR) took place in Marrakech in Morocco on November 28 and 29, 2014. Around 240 medical oncologists, radiation oncologist, surgeons, researchers, residents, and students participated in this international event, including experts from Canada, America, French, Lebanon, Egypt, Italy, Tunisia and Morocco. The organization was successful thanks to the support of several scientific societies, particularly the Moroccan Society of Cancerology and the support of several local pharmaceutical companies. The objective of the conference was to highlight the practices and current controversies in the management of cancers, and introduce new horizons in medical oncology, translational research and specifically on the role of innovative biomarkers, new targeted therapies and new concepts in personalized medicine. The conference also aimed to promote collaboration between Moroccan oncology community and colleagues in other countries. In this Editorial we report the main research results presented and the soundest highlights reported by national and international experts.

FRIDAY, NOVEMBER 28, 2014

In the 1st day, several cancer scientists from Morocco and other Middle-East countries presented their original reports. Colleagues from the Department of Pathology of the University Hospital of Marrakech presented their data on molecular classification of breast cancer in Moroccan population, a new classification useful in the precision of prognosis and the optimal treatment. The prevalence of breast luminal A, luminal B, human epidermal growth factor receptor 2 (HER2) and triple negative subtypes were 48.6%, 25.6%, 10.2% and 15.6%, respectively.

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An interesting work on the molecular profile of lung adenocarcinoma was conducted by a team from the Medical Oncology Department of the National Institute of Oncology of Rabat. Their data suggests that the mutation of the tyrosine kinase domain of the receptor EGFR1 is more common in our population compared to the white population and lower in our population compared to the Asian population. In addition, these researchers report that the frequency of KRAS in the Moroccan population is lower than that of the Caucasian population and comparable to that of the Asian population.

Another interesting work presented by a team from the University Hospital of Fes has explored the molecular characteristics of gastrointestinal stromal tumors (GIST) in 47 patients. This study suggests that the frequency of mutations in exon 11 of KIT was 48.9%. In patients presenting no mutation in exon 11, three mutations were discovered on KIT-exon 9 and PDGFRA-exon 18.

Thymoquinone (TQ) is a natural product derived from the black seeds of a flower in the Middle-East called Nigella sativa with a promising anticancer activity, but its development has been hampered by its limited bioavailability. The encapsulation of drugs was often used to overcome the low solubility drugs, bioavailability and the nonspecific targeting. To overcome this problem, Lebanese researchers investigated four different formulations of stable nanoparticles having interesting anti-tumor activity on breast cancer cell line without any significant toxicity (TQ-PN). The results generated by this project describe a new approach to improving the anticancer activity of TQ and therefore contribute greatly to the translation of this molecule in the clinic for various applications.

Other interesting papers were presented; a work presented by a PhD student from Kingston University of London on the stability of the Trabectidine at continuous infusion and the results of the anti-tumor activity of Artemistin presented by a team from Beni Mellal.

SATURDAY, NOVEMBER 29, 2014

In the 2nd day the young oncologists presented their scientific works on clinical experiences. They discussed

several topics related to breast cancer treatment, colon cancer, nasopharyngeal carcinoma and neuroblastoma.

Prof. Al Moustafa presented one of his recent works about the presence and the role of onco-virus in breast cancer carcinogenesis. They revealed that some viruses can convert noninvasive nonmetastatic human cancers to invasive and metastatic cancers. Meanwhile, Dr. Al Moustafa showed that the most frequent oncovirus in human breast cancer are: MMTV, the Epstein-Barr-Virus (EBV) and the high-risk human papillomavirus (HR-HPV). In the same sense, interesting work conducted by a team from the Pasteur Institute of Casablanca evaluated the association between viral infections and breast cancer development in Morocco. This work was done in collaboration with two international teams from France and Belgium. The results show for the 1st time in Morocco that HPV and EBV can beings involved in breast carcinogenesis.

In an interesting session, several national speakers clarified the role of angiogenesis in tumor growth, progression and metastasis as well as the role of anti-angiogenic therapy in the treatment of solid tumors. Indeed, in the last decade our knowledge in tumor angiogenesis mechanism has been improved and a real progress has been made in targeting tumor angiogenesis. Several clinical trials have been conducted and the receptor targeting the vascular endothelial growth factor (VEGFR) has been the most developed. The Bevacizumab, a humanized monoclonal antibody targeting the vascular endothelial growth factor (VEGF), the most growth factor involved in tumor angiogenesis, was the first anti-angiogenic inhibitor approved for the treatment of several cancers. Bevacizumab has contributed to the improved prognosis of various advanced cancers, particularly colorectal cancer, lung cancer and ovarian cancer. Several new molecules have also known a huge development and have several clinical applications, others are under development. Small multi-target molecules targeting the tyrosine kinase domain of VEGFR receptors and other receptors and pathways involved in angiogenesis lead to a significant improvement in the survival of several metastatic tumors, such as renal cell carcinoma, carcinoma hepatocellular, sarcoma, and neuroendocrine carcinomas. In lung cancer, nonsquamous nonsmall cell, bevacizumab was the only treatment approved in the first line metastatic in combination with paclitaxel and carboplatin in patients with nonsquamous histology. Other targeted therapies are under study court. Several anti-angiogenic treatments have been developed in the taken care of gastrointestinal cancers noncolorectal. In gastric cancer ramucirumab, a humanized monoclonal antibody that binds to the extracellular domain of VEGFR receptors is the only anti-angiogenic treatment approved in second-line metastatic. In advanced neuroendocrine pancreatic cancers of low grade, two target molecules; everolimus and sunitinib have been approved. Sorafenib a small multi-target molecule is the only treatment approved in the management of advanced hepatocellular carcinoma. Chemotherapy was considered until recently the only therapeutic option in the treatment of metastatic soft tissue sarcomas. Currently a small molecule targeting anti-angiogenesis, pazopanib, is approved in the second-line treatment of nonlipogenic sarcomas. Epithelial ovarian cancers are advanced incurable diseases. Bevacizumab is indicated for the treatment of stage III/IV after the standard surgery. Bevacizumab is also approved for the treatment of relapsed platinum sensitive disease in combination with a platinum-based doublet and in relapsed platinum resistant disease. In advanced medullary carcinoma of the thyroid, two anti-angiogenic molecules are approved by the FDA; vandetanib and levatinib. In differentiated thyroid cancer resistant to ira-therapy, two molecules are approved, Cabozantinib and Sorafenib. Metastatic breast cancer is an incurable disease; the goal of treatment is essentially palliative to improve the quality of life and survival. Bevacizumab in combination with weekly paclitaxel is the only approved anti-angiogenic therapy for the treatment of HER2-negative metastatic breast cancer. Complete articles from all these presentations were published in the "Current Angiogenesis 2014."

Another interesting session on recent developments in the treatment of metastatic nonsmall cell lung cancers (NSCLC) was presented by Prof. Chouaid from Paris. For a long time, chemotherapy has been considered the basis of the management of metastatic NSCLC. In first-line metastatic setting, in patients with good general condition, the platinum-based doublets (with a new generation drug) are the most effective combinations. Currently, the treatment should be guided by the histological type; pemetrexed plus cisplatin for adenocarcinoma and gemcitabine plus cisplatin for squamous cell carcinoma. In the era of personalized treatments, targeted therapies confirmed their important roles in the management of metastatic NSCLC. Bevacizumab is the first targeted therapy that has proven a benefit in patient with metastatic nonsquamous NSCLC. Then, several molecular abnormalities have been shown to be very interesting targets. The EGFR mutation is found in 10–15% of cases and more frequently in women, nonsmokers and adenocarcinoma histology. Gefetinib and erlotinib are two small molecules targeting the tyrosine kinase domain of EGFR. They are currently approved for the treatment of patients with metastatic NSCLC carrying an activating EGFR mutation. Another interesting molecular abnormality called EML4-ALK rearrangement has proved his involvement in carcinogenesis of 5% of metastatic NSCLC. Two drugs are currently approved for the treatment of this subpopulation of patients, Crizotinib in frontline and Ceritinib in second-line.

Prostate cancer is the second most frequent cancer and the second most deadly cancer in men after lung cancer. In a symposium presented by Prof. Droz, an international expert in the management of urological cancers, the new therapeutic strategies developed in the treatment of castrate resistant prostate cancer were discussed. Docetaxel is the first chemotherapy that has improved survival of patients with CRPC. Since 2010, new treatments have been developed. Abiraterone Acetate blocks CYP17 the main enzyme involved in the androgen synthesis in patients with CRPC. Abiraterone acetate is currently approved in the predocetaxel setting in asymptomatic and moderately symptomatic patients, and after progression on docetaxel. Enzalutamide is a potent inhibitor of androgen receptor. It is also approved for patients with CRPC in the same above indications. Two other molecules have proven survival benefit, the Sipuleucel-T and Radium-223.

Immunotherapy of cancer observed enormous progress in recent years. Prof. Chouaib presented their works on the influence of the tumor environment particularly in the situation of hypoxia.

Four interesting workshops were very successful. The first on the role of the sentinel lymph node in the treatment of localized breast cancer, the second on the multidisciplinary management of prostate cancer, the third on the molecular diagnosis of hematological malignancies, and the fourth on the role of rehabilitation in the cancer patient's care.

Several other clinical and basic research works are presented as poster sessions (57 in total).

Finally, the first conference of the medical oncology of Marrakech and the fourth annual meeting of the MEACR were a great experience for us. This is a great conference that brought together national and international clinicians and researchers to discuss new developments in the personalized cancer care. The participants were very satisfied with the quality of the speakers and presentations. The English language played an important role in the improvement of the quality of the conference.

The presence special issue published in the CCIJ includes all abstracts of the conference.

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