has proven effective in controlling intravascular hemolysis in vivo, leading to remarkable clinical benefit in a majority of PNH patients.[12,13] Yet, persistent C3 activation occurring during eculizumab treatment may lead to progressive deposition of C3 fragments on affected erythrocytes and subsequent C3-mediated extravascular hemolysis, possibly limiting the hematologic benefit of anti-C5 treatment.[14,15] Thus, upstream inhibition of the complement cascade seems an appropriate strategy to improve the results of current complement-targeted treatment.[16,17]

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SP 10

Access to cancer medicines and targeted therapies in developing countries

Zeba Aziz

In LMIC national cancer control programs are barely existent. Emphasis is mainly focused on fighting infectious disease, maternal child mortality and now fighting the Covis-19 catastrophe.

Pakistan is a LMIC with allocation of only 2.7% of the GDP to health. We have approximately 173,937 new cancers and a mortality of 118,442. Health expenditures do not correlate with outcomes especially for the marginalized population. Development and implementation of national NCD control programs for screening of common cancers and early detection are either non-existent or sporadic as a result cancers are usually diagnosed late and present challenges to therapy on all fronts especially in the indigent population.

Challenges include poverty, ignorance, lack of access to cancer centers, lack of access to basic cancer therapy and suboptimal treatment. This includes surgery, radiation and cancer therapy including supportive care. Simultaneously there is a dearth of human resource and cancer care providers to diagnose treat and provide supportive care to cancer patients.

Access to new biologics and targeted therapies present a challenge to the already strained health care budget. Current status of cancer care will be discussed in Pakistan.

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SP 11

Ph-positive and ph-like all: how can we further improve?

Robin Foà

While in childhood ALL the cure rates can be over 80%, in adults the prognosis still remains unsatisfactory. Important advancements have however occurred in the management of adult patients based on the biology of the disease. Ph+ ALL is an illuminating example of how the understanding of a specific genetic abnormality has led over time to the use of targeted therapies. The results obtained with tyrosine kinase inhibitors (TKI) used upfront in adult Ph+ ALL have changed our approach to this condition in patients of all ages. It is thus mandatory that the abnormality is rapidly investigated at presentation. In the GIMEMA network, the presence or absence of the BCR-ABL fusion is tested centrally within one week from diagnosis of ALL, during the steroid pre-phase. TKIs – alone or in combination with chemotherapy – have markedly improved the rates of response and overall survival of Ph+ ALL. The Italian cooperative group GIMEMA over the years has been using an induction strategy based on the use of a TKI (1st, 2nd and 3rd generation) plus steroids and CNS prophylaxis, with no systemic chemotherapy. This has led to a hematologic CR in 94–100% of patients (with no upper age limit) with virtually no deaths in induction. A proportion of patients can obtain a molecular response. Some elderly patients treated only with TKIs are alive and well after many years from diagnosis. Other groups have used a combination between a TKI and de-intensified chemotherapy, in order to reduce the toxicities (and deaths) associated with conventional chemotherapy plus a TKI. With the advent of TKIs, the induction of Ph+ ALL patients – if identified promptly – is a solved issue. Since patients who achieve a molecular response fare significantly better, a molecular response should be the primary endpoint of treatment. Allogeneic stem cell transplant has always been considered the only curative strategy for Ph+ ALL patients. New strategies are however under active investigation. In the last GIMEMA LAL 2116 front-line trial an induction-consolidation strategy based on the use of dasatinib followed by at least two cycles of the bispecific monoclonal antibody blinatumumab were used. This chemo-free induction-consolidation approach is associated with very high rates of molecular response (Chiaretti et al, ASH 2019). In childhood Ph+ ALL, the protocols so far still use an induction based on a combination of chemotherapy plus a TKI.

Great attention has been raised by the so-called Ph-like ALL, a subgroup associated with an unfavorable prognosis. Evidence has been provided that this is contributed by the persistence of minimal residual disease following conventional chemotherapy. Attempts are being carried out by incorporating TKIs or other inhibitors. The GIMEMA LAL 2317 has used blinatumomab in the front-line Ph- ALL protocol (recently