**Table 3 The main subtypes of primary (neoplastic) hypereosinophilic syndromes [13]**

| Subtype | Clinical features | Laboratory tests |
|---|---|---|
| Myeloproliferative (M-HES) | Male predominance<br>Hepato-splenomegaly<br>Anemia<br>Endomyocardial fibrosis<br>Restrictive lung disease<br>Mucosal ulcerations<br>Good response to imatinib<br>Variable steroid response<br>Poor prognosis | F/P gene mutation by RT-PCR or FISH<br>Increased serum tryptase<br>Increased serum B12<br>Thrombocytopenia<br>Dysplastic eosinophils<br>Myelofibrosis<br>Myeloid precursors in blood |
| Lymphocytic (L-HES) | Almost equal sex ratio<br>History of atopy<br>Frequent skin lesions<br>Gastrointestinal symptoms<br>Obstructive lung disease<br>Low mortality<br>Possible progression to T-cell lymphoma<br>Rare cardiac involvement<br>Steroid responsive | Aberrant phenotypic T-cell population in blood<br>Clonal T-cell pattern by PCR<br>Increased eosinophilopoietic cytokines (IL-5)<br>Increased serum IgE<br>Increased TARC |

*TARC* thymus activation-regulated chemokine, *F/P mutation* FIP1L1-PDGFRA mutation, *FISH* fluorescence in situ hybridization, *RT-PCR* reverse transcriptase polymerase chain reaction