



**Figure 5.3** Age-related changes in erythrocyte, platelet, leukocyte and white blood cell number.

### 5.2.2 Common Genes with Age-Related Influence on Health Conditions in NDDs

Among hundreds of genes potentially involved in AD pathogenesis and concomitant disorders (cardiovascular and cerebrovascular disorders, hypercholesterolemia), at least 4 categories of genes deserve special attention: (i) genes associated with lipid metabolism: *APOB* (OMIM 107730; rs693 [7545C>T]; risk SNP 7545T) (participates in the atherogenic process in cooperation with *VLDL*, *IDL* and *LDL*); *APOC3* (OMIM 107720; rs5128 [3175G>C, S1/S2]; risk SNP 3175G (S2)) (associated with triglyceride levels; inhibits the activity of lipoprotein lipase and hepatic lipase); *APOE* (OMIM 107741; rs429358/rs7412 [112T>C/158T>C, *E2*, *E3*, *E4*]; risk SNP 112C/158C (*E4*)) (encodes apolipoprotein E, involved in the catabolism of triglyceride-rich lipoproteins and cholesterol homeostasis); *CETP* (OMIM 118470; rs708272 [+279G>A, B1/B2]; risk SNP +279G (B1)) (contributes to eliminate cholesterol from tissues *via* reverse cholesterol transport); and *LPL* (OMIM 609708; rs328 [1421C>G, S474X]; protective SNP 1421G) (hydrolyzes triglycerides which are part of *VLDL* and chylomicrons and removes