Decreasing the number of MOPP courses reduces gonadal damage in survivors of childhood Hodgkin disease.

Abstract: BACKGROUND: Children treated for Hodgkin disease are at risk for gonadal damage. Since most children were treated with radiotherapy (RT) in combination with chemotherapy, the presumed detrimental effect of MOPP (mustine, vincristine, procarbazine, and prednisone) (in contrast to schemes with less or without alkylating agents) could not be discerned completely from the effects of RT. PROCEDURES: Children with Hodgkin's disease treated without RT were included in sequential protocols containing six courses of MOPP (n = 24), six courses of ABVD (doxorubicin, bleomycin, vinblastine, and dacarbazine) (n = 17), or three courses of MOPP/ABVD (n = 35). Of these 76 patients, 48, who had completed treatment and had reached puberty, were investigated for gonadal damage. RESULTS: Of the male patients, 81% of MOPP treated patients had increased follicular stimulating hormone (FSH) values, in 23% luteinizing hormone (LH) values were abnormal. In ABVD treated patients, no elevated levels of FSH or LH were noted. In 30% of patients treated with MOPP/ABVD, FSH values were abnormal, but no abnormal LH values were found. Median testicular volume per group decreased in relation to a higher number of MOPP courses. Sperm analysis revealed azoospermia in nearly all MOPP treated patients. In ABVD and MOPP/ABVD treated patients both oligospermia and azoospermia were
noted. The number of sperm samples were too less to make any sound conclusions. Menarche occurred in all females, however in some at a relatively later age. One female patient treated with MOPP/ABVD had a normal pregnancy. CONCLUSIONS: Limitation of MOPP therapy to three courses, in children treated without any RT, results in less gonadal damage as compared with six MOPP courses. From our data, MOPP damages Sertoli cells and may also damage Leydig cells as suggested by the higher LH values in conjunction with normal testosterone levels.