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Embryonal cancers in Europe

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Abstract Embryonal cancers are a heterogeneous group of rare cancers which mainly occur in children and adolescents. The aim of the present study was to estimate the burden (incidence, prevalence, survival and proportion of cured) for the principal embryonal cancers in Europe (EU27), using population-based data from cancer registries (CRs) participating in RARECARE.

We identified 3322 cases diagnosed from 1995 to 2002 (latest period for which data are available): 44% neuroblastoma, 35% nephroblastoma, 13% retinoblastoma and 6% hepatoblastoma. Very few cases of pulmonary blastoma (43 cases) and pancreatoblastoma (seven cases) were diagnosed.

About 2000 new embryonal cancers were estimated every year in EU27, for an annual incidence rate of 4 per million (1.8 neuroblastoma, 1.4 nephroblastoma, and 0.5 retinoblastoma); 91% of cases occurred in patients under 15 years. Five-year relative survival for all embryonal cancers was 80% (99% retinoblastoma, 90% nephroblastoma, 71% hepatoblastoma and 68% neuroblastoma). Overall survival was lower in adolescents and adults than in those under 15 years. The cure rate was estimated at 80%. Slightly less than 40,000 persons were estimated alive in EU27 with a diagnosis of embryonal cancer in 2008. Nephroblastoma was the most prevalent (18,150 cases in EU27), followed by neuroblastoma (12,100), retinoblastoma (5200), hepatoblastoma (2700) and pulmonary blastoma (614).

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This is the first study to delineate the embryonal cancer burden in Europe by age, sex and European region. Survival/cure rate is generally high, but there are considerable gaps in our understanding of the natural histories of these rare diseases particularly in adults.