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Cancer Statistics Digest
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International variations in renal tumours incidence in children and adolescents

In order to compare the subtype distribution of renal tumours in children and adolescents between Japan and other countries, we extracted information on cancer incidence in children and adolescents from the third volume of the International Incidence of Childhood Cancer series (IICC-3) (1)). The IICC-3 reports the number or incidence rates of cancers diagnosed in childhood and adolescence, from cancer registries (regional or national) worldwide. We analysed renal tumour incidence in four countries in Asia (Japan, China, the Republic of Korea and Thailand), two countries in Africa (Egypt and Uganda), four countries in the Americas (North: The USA and Canada, Latin and Caribbean: Brazil and Colombia), three countries in Europe (the UK, France and Germany) and two countries in Oceania (Australia and New Zealand). Information from the Republic of Korea, USA, UK, Australia and New Zealand was obtained at the national level, and that from the other countries was extracted from one or multiple regional cancer registries. The years of incidence included in the analyses varied from country to country, ranging from 1990 to 2014, with the shortest being 12 years (Egypt: 1999–2010, UK: 2000–2011) and the longest being 24 years (Japan and China: both 1990–2013). In this study, we compared the incidence and proportional distribution of renal tumour subtype in children (0–14 years old) and adolescents (15–19 years old) between these countries.

As shown in Table 1, the country-specific age-standardised renal tumours incidence rates in children (0–14 years old) varied from 3.4 to 11.0 cases per 1000 000 person-years. Lower rates were observed in Asian countries (from 3.4 cases per 1000 000 person-years in Thailand to 5.4 cases per 1000 000 person-years in the Republic of Korea) compared with other continents. In particular, similar age-standardised rates were observed in countries of the North America, Europe and Oceania, with values ranging from 8.4 cases per 1000 000 person-years in New Zealand to 10.0 cases per 1000 000 person-years in France. Estimates from African countries did not show a clear pattern with a relatively low value for Egypt, while Uganda had the highest observed rate of 11.0 cases per 1000 000 person-years. The country-specific renal tumours

Table 1. Incidence rates of renal tumours in children and adolescents (per 1000 000 person-years)

	Children (0–14 years old)[a]	Adolescents (15–19 years old)
Asia		
Japan	3.7	0.6
China	4.7	0.8
Republic of Korea	5.4	1.2
Thailand	3.4	0.9
Africa		
Egypt	6.6	1.1
Uganda	11.0	2.2
America (Latin and Caribbean)		
Brazil	9.6	0.8
Colombia	7.5	1.1
America (North)		
USA	9.5	1.6
Canada	9.8	1.4
Europe		
UK	9.1	1.1
France	10.0	1.9
Germany	9.2	0.9
Oceania		
Australia	9.0	1.4
New Zealand	8.4	1.7

[a]age-standardised incidence rate

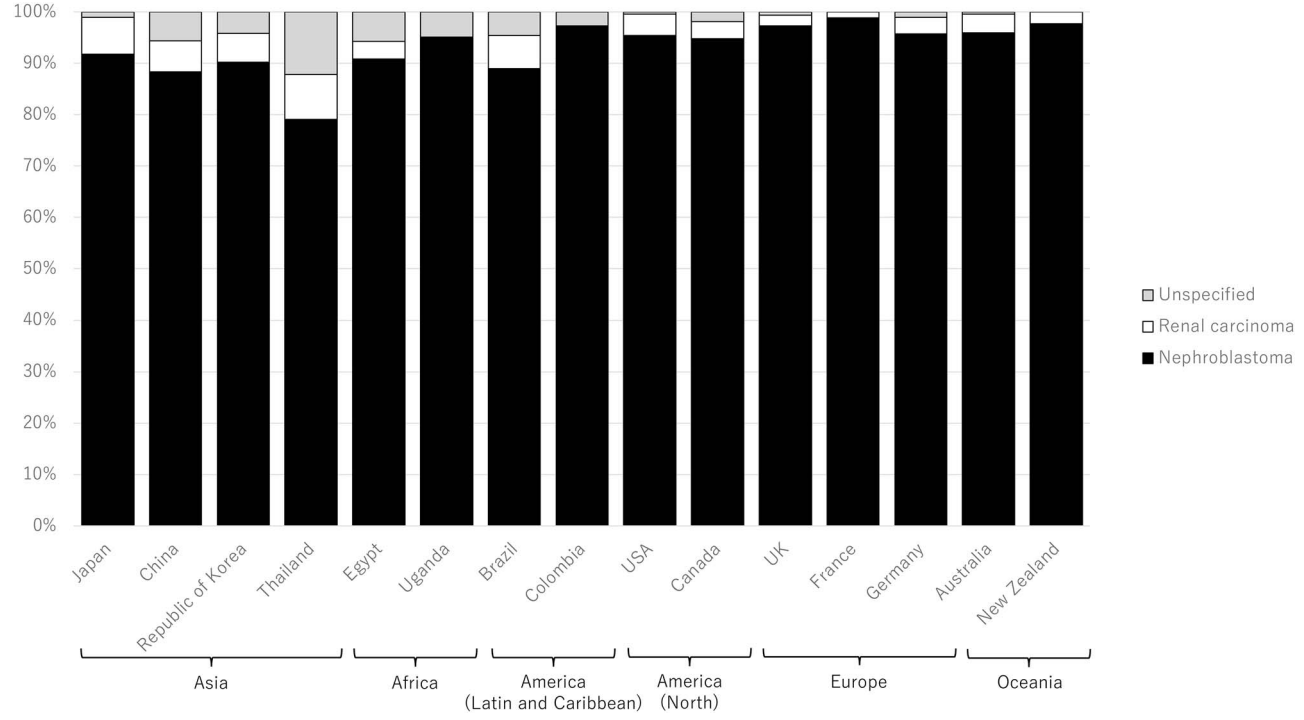

Figure 1. Proportional distribution of subtype of renal tumours in children (0–14 years old).

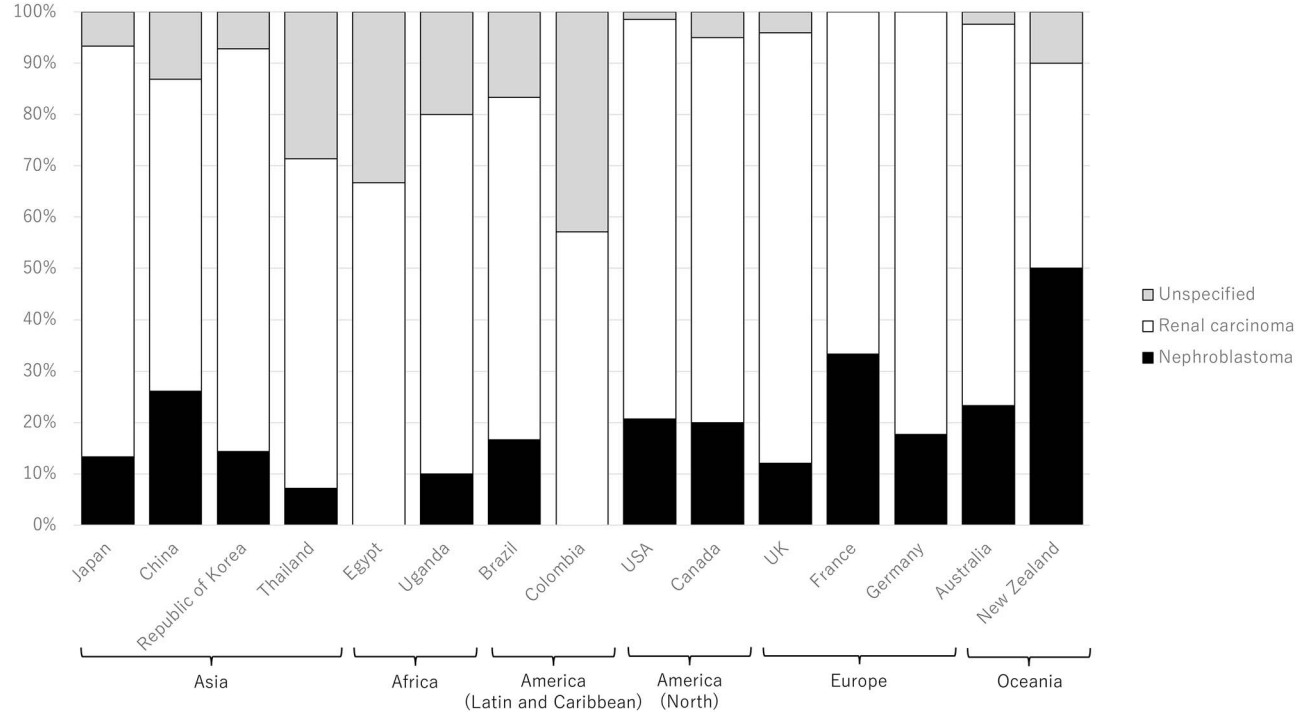

Figure 2. Proportional distribution of subtype of renal tumours in adolescents (15–19 years old).

incidence rates in adolescents aged 15–19 years old exhibited much smaller values than for children, ranging from 0.6 (Japan) to 2.2 (Uganda) cases per 1000 000 person-years.

Figure 1 shows the proportional distribution of subtype of renal tumours in children aged 0–14 years by country. The vast majority of renal tumours diagnosed in this age group were nephroblastomas and other nonepithelial renal tumours, which includes rhabdoid renal tumours and kidney sarcomas, with proportions ranging from 79.1% in Thailand to 98.9% in France. Renal carcinomas proportions varied from

0.0% in Colombia and Uganda to 8.7% in Thailand. Most countries of the North America, Europe and Oceania had a very high proportion of nephroblastoma (between 94.8 and 98.9%), a low proportion of renal carcinoma (between 1.1 and 4.2%) and a very low proportion of unspecified tumours (from 0.0 to 1.8%). On the contrary, Asian countries had lower proportions of nephroblastoma (between 79.1 and 91.8%) and a higher proportion of renal carcinomas (between 5.6 and 8.7%). Brazil also exhibited a rather high proportion of renal carcinomas (6.5%).

Figure 2 shows the proportional distribution of subtype of renal tumours in adolescents aged 15–19 years. The most frequently diagnosed renal tumour in this age group was renal carcinoma with proportions ranging from 57.1% in Colombia to 84.0% in the UK, with the exception of New Zealand where only 40.0% of renal tumours diagnosed were renal carcinomas (nephroblastomas representing 50.0% of the diagnosed tumours). We observed more variability in the country-specific distributions even within continents. In particular, Thailand, the African countries and countries from America (Latin and Carribbean) exhibited rather high proportions of unspecified tumours: the two largest proportions were observed in Egypt (33.3%) and Colombia (42.9%).

Note: Data were extracted from the third volume of the International Incidence of Childhood Cancer series (IICC-3) (1)). The table and figures are prepared by the authors of this article, and the responsibility for this presentation and its interpretation lies with the authors of this article.

Conflict of interest statement

None declared.

Reference

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