

# A Statistical Study of Tumors Among Koreans

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Few statistical studies have been made on incidence and types of tumor in Koreans. Choy (1) in 740 microscopic diagnoses found that the female breast was the commonest site of primary tumor and that cancer of the penis was second. Ludlow (2) reported that carcinoma of the stomach was as common in the Korean as in other peoples, that the incidence of carcinoma of the uterus was about the same as in other countries, and that carcinoma of the penis was unusually common. These tumors were first, second, and third, respectively. Similar figures are reported from China and Siam.

The present report is a study of tumors seen during the fifteen years from 1925 to 1939. The materials were obtained mostly from our hospital, but some were collected from various mission hospitals from all over the country. Most of them were surgical specimens, but a small number of necropsies is included.

Our total pathological accessions number 3254. These include 409 (12.5 per cent) benign tumors and 632 (19.4 per cent) malignant tumors.

## BENIGN TUMORS

The total number of benign tumors was 409, of which 71 were found in males and 338 in females, a sex ratio of 1:5. The favorite sites were: ovaries, 116 (28.5 per cent); uterus, 103 (25.5 per cent); breast, 49 (11.2 per cent); thyroid, 32 (7.8 per cent). These tumors were classified histologically as follows: cyst, 116 (28.5 per cent); fibroma, 98 (24.0 per cent); papilloma, 32 (18.5 per cent); polyp, 30 (7.3 per cent).

The 116 ovarian cysts occurred at all ages from 18 to 77 years. The average age was 39.6 years. The greatest number was seen in the age-period 41 to 45 years, followed by ages 26 to 30 and 36 to 40 in that order.

The 98 fibromas were found in many locations and at all ages, the youngest occurring in the thigh of a 3-year-old boy. The oldest was in the uterus of a female 68 years old. The average age was 42.4 and the ratio of males to females was 1:3.5. The commonest site was the uterus (45 cases), followed by breast and then by ovaries.

Thirty-two benign tumors were found in the

thyroid gland. Of these, 7 occurred in males and 25 in females. The ages varied from 19 to 55 years.

Papillomas from various sites numbered 32 cases, of which 15 were in males and 17 in females. The youngest was a 5-year-old male (nasal cavity). The oldest was a 64-year-old male (bulbar cavity). The average age was 34.8 years. The commonest site was the rectum (18.7 per cent).

One hundred and three benign tumors were found in the uterus. They were classified histologically as follows: fibroma, 45 cases (uterine body, 31; uterine cervix, 14); fibromyoma, 25 cases (uterine body, 22; uterine cervix, 3); adenomyoma, 14 cases (all uterine cervix); myoma, 13 cases (uterine body, 9; uterine cervix, 4); papilloma, 5 cases (uterine body, 1; uterine cervix 4); angioma, 1 case (uterine cervix).

## MALIGNANT TUMORS

There were 632 malignant tumors, of which 429 (67.8 per cent) were carcinomas, 183 (28.8 per cent) were sarcomas, and the other 20 (13.4 per cent) were miscellaneous malignant tumors.

1. *Carcinoma*.—One hundred and eighty-nine carcinomas occurred in males and 240 in females. There was a gradual rise in the number of cases to a maximum in the decade 51 to 60 years (36.6 per cent) and an abrupt decrease thereafter. The topographical distribution of these carcinomas was as follows: uterus, 81 cases (18.8 per cent); breast, 70 cases (16.3 per cent); stomach, 56 cases (13.0 per cent); skin, 53 cases (12.3 per cent); penis, 36 cases (8.3 per cent); tongue, 24 cases (5.5 per cent); liver, 24 cases (5.5 per cent). The favorite sites in the male were penis, stomach, skin, liver, and tongue in the order given. In the female the commonest sites were uterus, breast, stomach, skin, and vulva in that order.

Carcinoma of the uterus was represented by 81 cases, which was 18.8 per cent of all carcinomas. The ages were given from 22 to 81 years. The greatest number of cases was in the decade 41 to 50, with a decrease thereafter. The ratio between carcinoma of the uterine body and of the uterine cervix was 25:56, or approximately 1:2. The aver-

age age for carcinoma of the uterine body was 52.3 and for the uterine cervix 48.4 years.

The total number of breast cancers was 70 cases, which was 16.3 per cent of all carcinomas. Sixty-nine occurred in females and 1 in a male. The ages varied from 28 to 78, with an average age of 51.1 years. Most cases occurred in the decade of ages 51 to 60. The carcinoma in a male breast was found in a patient 49 years old.

The series included 56 cases of carcinoma of the stomach, which was 13.0 per cent of all carcinomas. Thirty-five cases were in males and 21 in females. The youngest patient was a 24-year-old man with a medullary carcinoma, and the oldest was a man of 76 with a glandular carcinoma. The histological subclassification was as follows: scirrhus carcinoma, 37.5 per cent; adenocarcinoma, 28.6 per cent; medullary carcinoma, 19.6 per cent; gelatinous carcinoma, 14.3 per cent.

There were 53 cases of carcinoma of the skin. This comprised 12.3 per cent of all carcinomas. Thirty-four cases occurred in males and 19 in females. The ages were from 25 to 72, with an average of 52.8 years.

Carcinoma of the penis with 36 cases was 8.3 per cent of all carcinomas. The ages were from 31 to 67 years, with an average of 47.3 years.

There were 24 cases of carcinoma of the tongue. This comprised 5.5 per cent of all carcinomas. There were 19 cases in males and 5 in females. The ages were from 30 to 64, with an average of 47.3 years.

The total number of liver cancers was 24 cases, or 5.5 per cent of all carcinomas. Nineteen occurred in males and 5 in females. The ages varied from 30 to 64, with an average age of 50.4 years.

2. *Sarcoma*.—The total number of sarcomas was 183 cases. This was 19.2 per cent of all malignant tumors. One hundred and nine cases were in males and 74 in females. The incidence curve shows peaks in the decades 11 to 20 and 41 to 50. The topographical locations were as follows: lymph glands, 23.9 per cent; lower limbs, 14.4 per cent; ovaries, 8.9 per cent. The histological subclassification showed round-cell sarcoma in 24.0 per cent; spindle-cell sarcoma, 16.4 per cent; and fibrosarcoma, 15.4 per cent.

3. *Other malignant tumors*.—This group totaled 20 cases, of which 3 were hypernephromas, 11 endotheliomas, 3 chorionepitheliomas, and 3 peritheliomas.

#### SUMMARY

From the above statistical studies it seems conclusive that tumors among Korean people show similar figures to those in Western countries, with two remarkable exceptions, namely, carcinoma of the liver and of the penis, which show much higher percentages among Koreans.

#### REFERENCES

1. CHOY, P. D. The Result of 740 Sections Diagnosed. *J. Severance Union Medical College*, 1:45-56, 1933.
2. LUDLOW, A. I. Carcinoma in the Korean. *China M. J.*, 43:465-472, 1929.