ON DISEASE INCIDENCE IN CHINA.

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DISEASE incidence among an ancient isolated people who constitute a quarter of the world's population should in itself be of much interest from a medical standpoint. With the impending industrial and commercial development of the country it becomes a matter of increasing importance to the outside world. Yet it is a subject concerning which there is only the most meager and fragmentary data. Jeffries and Maxwell,¹ in "The Diseases of China," the only comprehensive publication of the subject, state: "Certainly what we have to present is incomplete, and we would make it plain that this is so, and that this chapter is, as it were, but a preliminary presentation of a study which the future must bring to completion." There is, broadly speaking, no medical profession in China, and there are no vital statistics. Practically the only source of first-hand information in regard to disease incidence is from the small handful of western trained medical men working in a few widely scattered, inadequately equipped and understaffed mission institutions.

In the 1914 year book of the missions of China we find that the staff of European physicians of 264 hospitals and dispensaries totalled 300 European men, 135 women and 112 nurses. The Chinese staff consisted of 94 physicians and a group of assistants and nurses of varied and uncertain attainments. During the year 1914, 126,788 in-patients and 2,129,774 out-patients were treated.

Annual reports are available from about 60 of these institutions. Twenty-seven of these include detailed statements concerning the patients treated. Only eight of the reports give a complete list of medical and surgical cases. Successive reports, however, are available from four of the institutions.

As this article is concerned chiefly with the variety and relative frequency of disease conditions, these successive reports will be included. The fourteen annual reports studied deal with 15,800 in-patients, gleaned largely from among 298,436 out-patients in the hospitals, which, with few exceptions, are located in the coast provinces. While the data is obviously too fragmentary to furnish a basis for any conclusions either as to incidence or geographical distribution it, nevertheless, represents the combined experience of some of the foremost medical institutions in China, and thus contributes towards the knowledge of disease incidence as met with in patients in Chinese hospitals.

There are almost as many nomenclatures and classifications of disease as there are reports. There is also a tendency to group diseases under such terms as "various," "others," "miscellaneous," "sundries," etc. A summary of lists of diseases which include such vagaries obviously cannot be accurate. However, as the number of cases so listed is limited, the percentage of error is also small.

Because of the diversity of classification, the cases had necessarily to be grouped. I have classified them under large general headings, and under these they are grouped according to the international classification of disease. The following list (Table I) gives in actual numbers and percentages the disease incidence under the large general headings.

TABLE I.

	1913-1914*		1913-1914	
	CHINESE HOSPITALS		MANS. GENERAL HOSPITAL	
	CASES	PER CENT.	CASES	PER CENT.
1. Specific infectious diseases and general diseases . . .	2,781	17.60	2,120	13.36
2. Diseases due to animal parasites	2,053	13.00	96	0.60
3. Diseases due to metabolism	4		131	0.82
4. Diseases peculiar to infancy	11		105	0.66
5. Diseases due to physical agents	107	1.05	86	0.54
6. Poisonous and intoxications	146	.92	104	0.65
7. Malignant—carcinoma and sarcoma	210	1.32	1,020	6.42
8. Benign	308	1.95	462	2.91
9. Congenital malformations	92	0.60	171	1.08
10. General injuries and diseases of skin and subcutaneous tissues	2,754	17.43	654	4.12
11. Special skin diseases	162	1.03	338	2.13
12. Diseases of circulatory system	139	.90	901	5.77
13. Diseases of the lymphatic system	280	1.77	59	.37
14. Diseases of the blood	272	1.73	130	.82
15. Diseases of the ductless glands	54	.35	155	.98
16. Diseases of the nervous system	333	2.10	732	4.62
17. Diseases of bones, joints, tendons and fasciae	974	6.16	1,288	8.12
18. Diseases of the eye	1,524	9.66	106	.67
19. Diseases of the ear	129	.82		
20. Diseases of the naso-pharynx	26	.16	264	1.66
21. Diseases of mouth, lips, pharynx, tonsils, palate	112	.73	350	2.20
22. Diseases of the jaws, teeth and gums	105	.66	76	.48
23. Diseases of the tongue	1		11	.06
24. Diseases of the esophagus	6		53	.33
25. Diseases of the stomach	207	1.33	388	2.45
26. Diseases of the intestines	213	1.35	523	9.60

* Approximately.

TABLE I—Continued.

	1913-1914*		1913-1914	
	CHINESE HOSPITALS		MASS. GENERAL HOSPITAL	
	CASES	PER CENT.	CASES	PER CENT.
27. Diseases of the liver and gall bladder	85	.55	443	2.79
28. Diseases of the pancreas	1		14	.08
29. Diseases of the abdomen and peritoneum	203	1.30	824	5.19
30. Diseases of the rectum and anus	575	3.65	298	1.86
31. Diseases of the larynx	1		21	.13
32. Diseases of the trachea and bronchi	172	1.10	111	.70
33. Diseases of the lungs	50	.33	208	1.31
34. Diseases of the pleura and mediastinum	40	.25	183	1.15
35. Diseases of the kidneys and ureters	142	.90	552	3.47
36. Diseases of the bladder	204	1.30	74	.46
37. Diseases of the urethra	127	.80	110	.69
38. Diseases of the male genitalia	385	2.45	257	1.61
39. Diseases of the female genitalia	147	.95	889	5.60
40. Puerperal states	197	1.25	256	1.62
41. Unclassified or ill-defined	401	2.55	306	1.93
	15,795	100.00	15,864	100.00

* Approximately.

The parallel columns give the corresponding figures for a like number of cases (15,864) admitted during 1913 and 1914 to the Massachusetts General Hospital. This hospital also has a majority of surgical cases, and treats similar diseases, with the exception of eye and ear and obstetrical conditions. It, therefore, offers a fairly adequate basis for comparison.

From the above table it will be noted that specific infections and general diseases, parasitic infections, general injuries and infections of skin and subcutaneous tissues, diseases of bones and joints, diseases of the eye and of the rectum and anus, constitute more than two-thirds of the Chinese cases, but considerably less than one-third of the Massachusetts General Hospital cases. If there were at the latter a like number of eye and ear patients, its total would be 38%. The most notable differences are those relating to rectal diseases and parasitic infections, of the combined total of which the Massachusetts General Hospital has only 2.45%, as against 16.6%. Specific infections and general diseases and diseases of the bones and joints make up more than 20% in both.

The other most striking disproportions are of primary diseases of the blood and of metabolism, of which the Chinese hospital reports include only two and four cases respectively. In diseases of the circulatory and digestive system, kidneys and ureters, female genitalia and malignant disease, there are only from 16 to 33% as many Chinese as there are Europeans. About 60% of the European cases of disease of the liver and gall-bladder are cholelithiasis and 6% cirrhosis. Among the Chinese about 43% are of cirrhosis and none of gallstone.

Further analysis shows that in some instances the difference as to organic disease is even greater than the figures indicate. About 85% of the diseases of the stomach and of the intestines, for example, are classified as indigestion, gastritis, diarrhea, etc., while in the Massachusetts General groups only about 15 and less than 1%, respectively, are so diagnosed.

The relative incidence of disease is given in two-thirds of the Chinese cases.

TABLE II.

SPECIFIC INFECTIOUS DISEASES AND GENERAL DISEASES.

	CASES	APPROX. PER CENT.
Tuberculosis		22
Pulmonary	141	
Abdominal	31	
Pott's disease	15	
Of the joints	164	
Of bone	39	
Of the skin	65	
Of the lymph nodes	129	
Of the genitals	12	
Unclassified	8	
Syphilis	582	21
Gonococcus infection	386	14
Enteric infection		15
Typhoid	198	
Paratyphoid	25	
Dysentery—cause unknown	176	
Amoebic dysentery	17	
Bacillary dysentery	11	
Balantidic	1	
Miscellaneous infections.		
Trachoma	276	10
Beri Beri	166	6
Chronic infectious arthritis	157	6
Purulent infections.		
Septicemia, pyemia	50	2
Relapsing fever	35	1
Pneumonia	37	1
All others	60	2
TOTAL	2781	100

Tuberculosis and venereal disease constitute 57% of the cases. Enteric infection, beri beri and arthritis bring the total up to 84%. Of the tuberculous infections, those of the bones and joints total 34%, those of the lungs 23%. It seems probable, however, that a much larger proportion of patients with bone and joint disease than with pulmonary disease seek medical advice.

Of the venereal patients 60% are luetic. The stage and part affected is, for the most part, unspecified. "Buboes" make up 60% of the non-luetic venereal cases. A little more than 50% of the enteric infections are of the typhoid group. Pneumonia seems rare as compared with its incidence among Europeans. Trachoma and beri beri, on the other hand, constitute almost a

sixth of all the cases. Under the unclassified group is included mostly the epidemic diseases, which appear to be infrequent from the fact that they are not, as a rule, treated in a general hospital. There are, for example, only 19 cases of leprosy included, but the general impression as to its frequency is expressed by Jeffries and Maxwell: "Leprosy is smeared over the face of China like butter on bread—not in spots, but found just about everywhere." Smallpox is also very prevalent. During the decade ending in 1915 there was in Shanghai an average of 200 deaths per annum (1 in 3000) among the Chinese, and 9 per annum (1 in 2000) among the Europeans and Japanese from this ancient malady. Epidemics of cholera and of bubonic plague occur mostly in the south. In the annual report of the Foochow Hospital³ is this statement: "Again, as in former years, thousands of the city's teeming population have succumbed to the awful ravages of the plague. It seems impossible to get at exact numbers. The Chinese themselves merely approximate the reckoning by counting the number of coffins that pass through the city gates on some one day and multiply the number by the 'days of the summer season.'"

There are very few recorded cases of the exanthemata. Stanley⁴ writes, "Scarlet fever was practically unknown in Shanghai prior to 1900, and was probably introduced by foreign immigrants."

The relative incidence of the communicable infectious diseases in the Isolation Hospital, Shanghai, 1915, was as follows:

TABLE III.

	FOREIGNERS, INCLUDING JAPANESE		CHINESE	
	ADMITTED	DIED	ADMITTED	DIED
Smallpox	56	19	36	15
Cholera	0	0	0	0
Diphtheria	33	2	36	6
Scarlet fever	38	1	89	22
Tuberculosis	0	0	6	1
Plague	0	0	0	0
Measles	22	2	21	2
Relapsing fever	0	0	9	0
Beri Beri	0	0	23	3
Leprosy	0	0	2	0
Syphilis	0	0	2	0
Chancreoid	0	0	6	0
Gonorrhea	0	0	236	0
Other diseases	29	1	467	6
	178	25	933	55

Population: foreigners, 18,000; Chinese, 600,000.

There are 35 cases of relapsing fever and 5 of typhus fever. Only 9 instances of tetanus are reported, which seems remarkable considering the relatively large amount of traumatism and the abundant opportunities for soil infection. There are three cases of anthrax. (Further typical cases are recorded in other reports.) There was doubt up to a few years ago as to the existence of this infection among the Chinese. In view of the most recent work on an-

terior poliomyelitis, it seems remarkable that there should be only one case of the disease—this one showing anterior horn lesion at autopsy. Kala-azar is reported as prevalent in some quarters. Rabies, while not included in the reports, is common in Shanghai. In 1915, "70 people were given the Pasteur treatment, in 37 of which the animals were proven rabid by inoculation."⁵

TABLE IV.

DISEASES DUE TO ANIMAL PARASITES.

	CASES	APPROX. PER CENT.
Ascariasis	876	43
Uncinariasis	451	22
Fasciola	284	14
Tricocephalus	215	11
Malaria	116	5
Schistosomum japonicum	7	1
Ringworm	5	
Others	9	
Unclassified	90	4
	2053	100

Inasmuch as 866 of the cases of ascariases and 371 of uncinariasis were reported from one hospital, these figures are not representative. However, that in China, he who seeks for parasites finds, is indicated by the comment in this hospital report⁶ on the increased number of these cases. It is stated that it was due to "a more careful and systematic search." One Shanghai hospital reports:⁷ "Out of 756 patients examined, only 323 were found to be free from intestinal parasites, i.e., 57.3% infected, 42.7% free."

Of parasitic infections which seem endemic to certain areas may be mentioned kala-azar, peragonium westermanii, schistosomum japonicum, fasciolopsis buski and clonorchis sinensis. Goiter and vesical calculus also seem endemic to certain sections.

TABLE V.

GENERAL INJURIES AND DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUES.

	CASES	APPROX. PER CENT.
Wounds	874	33
Abscesses	582	21
Ulcers	846	31
Contusions	269	10
Sepsis cellulitis, etc.	89	6
Carbuncles, furuncles	75	
Gangrene	19	0
	2754	100

It will be noted here that trauma constitutes 42% of all cases; and infections, excluding ulcers, 27%. About a third of the cases of trauma are gunshot wounds in soldiers. Excluding these, there are almost as many cases of infection as of trauma. The nature and site of ulcers is not stated. Regarding them Jeffries and Maxwell⁸ write: "Probably every form of leg ulcer known to man is found in this land . . . The majority are probably gummatous, with varicose a good second." Eggers⁹ calls attention to the occurrence of spirochetes and a

fusiform bacillus in the phagedenic "tropical" ulcer, occurring especially in Central China.

TABLE VI.
DISEASES OF THE BONES AND JOINTS.

	CASES	APPROX. PER CENT.
Fractures	420	23
Necroses and osteomyelitis ..	347	36
Dislocations	110	11
Other joint diseases	97	10
	974	100

These cases are exclusive of 218 cases of tuberculosis of bone. Fractures and dislocations make up more than half of all the cases. Of the fractures, two-thirds are of the lower extremity, and are equally divided between femur and leg. There were seven cases of dislocation of the hip. The bones affected in necrosis are for the most part not stated. Ankylosis and arthritis make up most of the joint cases. The elbow and knee seem most often affected.

TABLE VII.
DISEASES OF THE EYE.

	CASES	APPROX. PER CENT.
Cataract	235	15
Entropion	222	15
Conjunctivitis	211	14
Trichiasis	119	8
Pterygium	117	8
Corneal ulcer	102	6
Keratitis	80	5
Leucoma	54	4
Chalazion	32	2
Blepharitis	32	2
Scleritis	26	2
Hordeolum	22	1
Glaucoma	17	1
Amaurosis	17	1
Iritis	15	1
All others	223	15
	1524	100

Trachoma, included under specific infectious diseases, numbers 276 cases. Cataract is not as common as in other Oriental countries, notably India. Cataract, entropion and conjunctivitis make up 44% of the total. Maxwell¹⁰ says: "Every form of conjunctivitis that we know of is found," and "that for entropion is one of the commonest operations we are called upon to perform in China."

It may be of interest to consider some of the most striking relationships brought out in the groups constituting the remaining one-third of these 15,800 hospital patients. There are recorded under diseases of metabolism only three instances of diabetes mellitus and one of scurvy. Reed,¹¹ however, from replies received to a questionnaire, sent to 150 Western trained physicians, concludes that "it (diabetes mellitus) will be found increasingly prevalent in China as observation is extended to the better class of society." Most of the lesions caused by physical agents, excluding mechanical trauma, are due to burns. Only six cases are recorded. When

one considers the precautions Europeans are forced to take against the intense sunlight, this seems remarkable. The Chinese go about bare-headed with impunity. The cases of poisoning are mostly attempted suicides; opium was the drug used in half of 146 recorded cases. The number of opium suicides is said to be decreasing markedly with the increasing difficulty in obtaining the drug. An increasing number are using the inorganic acids, kerosene, salt, nuxvomica, gamboge and gold rings. There are only two cases of chronic alcoholism.

TABLE VIII.
THE DISTRIBUTION OF 224 CASES OF MALIGNANT DISEASE IS AS FOLLOWS.

	CASES	APPROX. PER CENT.
Breast	26	12
Stomach and liver	12	6
Male genitals	12	6
Peritoneum, intestines, rectum	9	4
Skin	9	4
Buccal cavity	8	4
Female genitals	7	3
Urinary organs	1	0
Unclassified	126	60
	210	

Incidence and mortality from malignant disease are almost synonymous terms in China, where so few apply for surgical relief, even in the late, hopeless stage. It is, therefore, of interest to consider the death rate as found in the available health reports. Hoffman,¹² in a study of cancer mortality throughout the world for 1908-1912, groups the cases as follows:

TABLE IX.
MORTALITY FROM CANCER IN THE REGISTRATION COUNTRIES OF THE WORLD, 1908-1912.

CONTINENT	POPULATION	DEATHS FROM CANCER	RATE PER 100,000 POPULATION
Africa	9,041,866	3,018	33.4
America ..	382,549,311	251,438	65.7
Asia	272,814,926	148,447	54.4
Australia .	27,886,740	20,345	73.0
Europe ...	1,431,996,961	1,026,716	76.6
	2,124,280,740	1,519,964	71.6

TABLE X.
THE MORTALITY FROM CANCER IN THE COUNTRIES OF ASIA.

	POPULATION	DEATHS FROM CANCER	RATE PER 100,000 POPULATION
Ceylon ...	70,076,320	1,133	5.6
Hongkong.	1,737,310	140	8.1
India	4,456,200	522	11.7
Japan	242,460,425	145,965	60.2
Penang ..	1,291,680	143	10.3
Philippines	1,190,154	325	27.3
Shanghai .	68,684	38	55.3
Singapore.	1,434,780	181	12.6
	272,814,962	148,447	54.6*

* The data are given for Ceylon, 1907-1911; for Hongkong, 1907-1911; for India, City of Calcutta, 1908-1912; for Japan, 1905-1909; for Penang, 1909-1913; for Philippine Islands, City of Manila, 1909-1913; for Shanghai, 1909-1913 (Europeans only); for Singapore, 1906-1910.

These figures, the author points out, are tentative and trustworthy only in an approximate sense. They would seem especially so for Asia. It will be noted, for example, that the proportion for this continent is based on 148,447 deaths. 145,965 (98.4%) of which are Japanese. For China the estimate would have to be derived from 140 deaths, one in 3,000,000. Generally speaking, cancer mortality appears highest in those countries and in those particular localities in which modern medicine has reached its highest development.

The tables would seem to indicate that practically nothing is known as to the actual incidence of malignant disease among the Chinese, and it represents the extent of our exact knowledge of disease incidence in general in China.

Some estimate of the relative incidence by organs may be gained from the following:

TABLE XI.
MORTALITY FROM CANCER BY ORGANS.

ORGANS OR PARTS	CHINA*	HONGKONG	JAPAN	PHILIPPINES	INDIA CEYLON	UNITED STATES
Buccal cavity	3.8	6	2.3	14.6	31.9	3.9
Stomach and liver	5.7	30	61.2	20.2	25.2	25.59
Peritoneum, intestines and rectum	4.3	6	5.3	7.5	1	13.27
Female genital organs	3.3	12.6	15.8 (31.1)	18.1	3.7	15.43
Female breast	12.4	5	1.3	8.5	3.8	9.2
Skin	4.3	2.5	1.1	0.3	2.2	3.45
Other or not specified	66.3	37.7	13	28.1	31.7	15.12
All organs	100.1	99.8	100		99.5	100
* Incidence.						
CASES	210	119	65,284	293	1323	76,319
YEARS: 1913-1914, 1895-1914, 1909-1910, 1908-1913, 1911-1913, 1913.						

It is of interest to note in passing the extraordinary disproportion in the incidence of carcinoma of the stomach and breast among the Japanese, as compared with that in the United States, and as compared with the available figures for China. The Japanese would seem to have ten times the incidence of gastric cancer of that found for China, and twice that for the United States. On the other hand, the Japanese seem to have only one-fourth and one-third as many cases of carcinoma of the breast. The proportion of cases affecting the female genital organs appears the same for Japan as for the United States.

TABLE XII.

THE 308 CASES OF BENIGN GROWTHS ARE CLASSIFIED AS FOLLOWS.

Sebaceous cyst	33
Lipoma	30
Fibroma	21
Cysts (unclassified)	21
Nasal polypi	21
Granulomata	16
Epithelioid	14
Myoma	14
Adenoma	14
Papilloma	9
Dermoid	8
Teratoma	8
Ovarian cyst	7
Osteoma	6
Angioma	5
Hydroma	3
Unclassified	78

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Harelip constitutes 60% of 92 cases of congenital malformations. There are 9 cases of imperforate anus. Fifty-four per cent. of the skin cases are of eczema. There are 12 instances of dermatitis, 9 each of impetigo contagiosa and erythema multiforme. No especially rare skin diseases are represented.

There are 139 cases of disease of the circulatory system. Of these, 20% are of mitral insufficiency, 20% endocarditis, 19% organic heart disease, and 10% aortic insufficiency. There are 15% of aneurysm and one case of Stokes-Adams disease.

Under diseases of the blood, 270 cases are classed as "anemia" and one case each of sclerosis and myeloid leukemia.

Of the 54 cases of disease of ductless glands, 43 are of splenomegaly, 4 goiters and 2 of hyperthyroidism. The others are ill defined.

There are 333 cases of disease of the nervous system. Almost half of these are classified as cerebral concussion. There are 38 of cortical hemorrhage, 24 of neuritis, 11 each of vertigo, insanity and neuroses, and 8 of migraine. There are 2 each of tabes, paresis, spastic paraplegia, lateral sclerosis, multiple sclerosis and brain tumor. It may be of interest to note here that in one clinic exclusively for mental disorders, of 327 cases 33% were manic-depressive, 26% dementia precox, 15% general paresis, and 5% alcoholic psychoses.

Tonsillitis makes up about half of the diseases of the nose and throat, with peritonsillar abscess, pharyngitis and stomatitis making up most of the balance. Necroses and defective teeth constitute practically all cases of disease of the jaws.

Gastritis, dyspepsia and indigestion include 85% of the 207 cases under diseases of the stomach. There were 12 cases of cancer of the stomach included under malignant disease. Twenty-four (11.6%) were of peptic ulcer, one perforative with recovery following operation.

Of 213 cases of diseases of the intestines, 87% are classified as diarrhea, constipation or intestinal colic. About 8% are appendicitis.

Forty-three per cent. of 85 cases of diseases of liver and gall-bladder are grouped under cirrhosis and 26% under abscess. Seven are diag-

nosed jaundice and two cholecystitis. There is not a case of cholelithiasis.

Of 203 cases of disease of the abdomen and peritoneum, 70% are diagnosed ascites. Twenty-six per cent. are of herniae and 4 of peritonitis.

Sixty per cent. of 262 cases of disease of the respiratory system are of bronchitis, 11% pleurisy, 9% asthma, and 3% empyema. Most of the remainder are set down as "disease of the lungs."

Nephritis and a small, unclassified group make up the total of 142 cases of renal disease, except for 2 each of floating kidney and hematuria, and one each of pyonephrosis, pyuria and calculus. Vesical calculus constitutes 63% and "urinary retention" 26% of the diseases of the bladder. Practically all the cases of lesion of the urethra, except 9 of stone, are due to stricture. Phimosis and balanitis make up almost 90% of the cases of the lesions of the male genitalia.

The 123 cases of gynecologic conditions are made up of a few each of the commoner lesions, of which relaxed perineum is the most frequent. Of 195 cases of puerperal states, about two-thirds were normal labors, 10% were abnormal labors, and there are a few cases each of adherent placenta, placenta previa and puerperal fever, and one each of tubal pregnancy, phlegmasia alba dolens and ruptured uterus.

Fewer of unknown cause, debility, "various" and "unclassified" make up most of the 470 cases under the group of ill defined or unclassified diseases.

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LIPOMA OF THE INTESTINE.

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THE principal benign tumors of the gastro-intestinal tract are lipoma, fibroma, myoma and adenoma. They are relatively uncommon. Lipoma, which occurs most often, arises from the adipose tissue of the submucosa. It may be pedunculated or sessile. Though usually single, four cases of multiple tumors have been reported. That of the ileum is, as a rule, about the size of a walnut, whereas the lipoma of the sigmoid or rectum may grow as large as an apple. The tumor almost always retains its submucous situation. Subserous lipomata are rare, and should be discriminated from a pseudo-tumor, described originally by Virchow, which is merely an elongated and hypertrophied appendix epiploica. Through torsion, or atrophy of the pedicle, the tumor may become detached, continuing its existence as a free body within the peritoneal cavity. Clinically, pseudo-lipomata are unimportant. In a case reported by Hahn, however, one slipped through an adventitious opening in the transverse meso-colon and caused intestinal strangulation.

Hensel has collected 71 cases of gastro-intestinal lipomata, discovered at operations, autopsy, or by spontaneous extrusion, as follows: operation, 39; autopsy, 21; and spontaneous extrusion, 11. The anatomic distribution was as follows: stomach, 3; duodenum, 6; jejunum and ileum, 21; large intestine, 39; locations not given, 2; total, 71.

In addition to its academic interest, the subject of intestinal lipoma has a surgical significance, owing to the co-existence with intussusception. The frequency of this combination is demonstrated by the statistics of Treves, which show that lipoma is found in 8% of the cases of intussusception. Wichman, in studying 131 cases of intussusception, discovered 11 cases of lipomata; and Stetten, in his analysis of 67 cases of gastro-intestinal lipomata, discovered intussusception in 60% of the cases.

In an extensive study of tumor-intussusception, Kasemeyer presents the abridged histories of 284 cases. There were 85 malignant and 192 benign tumors. In the adult, intussusception is also related to those inflammatory conditions which simulate a tumor. The analysis of 284 cases gives the following figures:

A. Carcinoma	49
Sarcoma	26
Epithelioma	3
Malignant tumors without definite diagnosis	7
TOTAL CASES	85
B. Tumors without a biological diagnosis	7
C. Benign tumors (or tumor-like conditions)	
Polypl	60