

A STUDY OF THE ENDOCERVICAL COLUMNAR CELLS II — EFFECTS OF PHYSIOLOGICAL CHANGES AND OF PATHOLOGICAL LESIONS OF THE UTERUS ON THE SPECIFIC NUMERICAL COMPOSITION OF THE ENDOCERVICAL EPITHELIUM*

EITEL DUARTE

Instituto Oswaldo Cruz, Rio de Janeiro, Guanabara

The second part of this paper is based on the specific count of columnar cells of 300 histological sections of the uterine cervix. In each case the clinico-pathological data were listed as presented in Table I, in which is showed, as an example, only one case. The age distribution among the 300 patients was (Table II):

AGE OF THE PATIENTS

Fifty normal cervixes removed from normal uteri of sexually mature women with histories of normal menstrual cycles were chosen. The result of the counts of the columnar cells of these normal cases (control group) was considered and designated as normal (Tables III & IV).

The age distribution among the 50 normal patients is seen in Table V.

Fifty normal cervixes removed from normal uteri of old and menopausal women were also selected. The result of the counts of the columnar cells of these cases was considered characteristics of senectude and termed oldage, although 17 cervixes were chronically inflamed (Tables III & IV).

The age distribution among the old-age patients is listed in Table VI.

The comparison of the sum of each cell in the two series NORMAL & OLD-AGE gave the following results: (See Tables III & IV).

* Received for publication May 26, 1965.

Work of the Instituto Oswaldo Cruz (Divisão de Patologia).

In the old-age women the cells of the surface of the mucosa, E — G — I — & Q are less numerous than normal. The numerical differences between normal and old-age group of classes of the cells D — E & G is statistically significant at 5 per cent after the analysis of variance (F test).*

The D — J — K — L — M — N — O — S — V & W cells of the surface of the endocervical mucosa are more numerous in the old-age women than in the control group.

The ciliated cells (Y + Z) of the superficial epithelium have the normal frequency of 23.50 per thousand and of 18.20 per thousand in the old-age women.

In the old-age women the cells of the endocervical glands, E — G are less numerous than normal. The numerical differences of the classes of the cells are statistically significant at 5%.

The D — L — M — N — O — & U cells of the glands are more numerous in the old-age than normal.

The ciliated cells (Y + Z) of the glandular epithelium have the normal frequency of 34.00 per thousand and of 32.30 per thousand in the old-age women.

INFLAMMATION

The endocervical columnar cells in direct contact with acute or chronic inflamed areas frequently present alterations in form and in the staining affinity of the cytoplasm. Their nuclei show changes in volume and in the intensity of coloration. We counted only the cells distant from the inflammatory foci.

The incidence of the inflammatory process according to degree is shown in Table VII.

The specific sum of each type of columnar cell, of surface and of endocervical glands, in 50 cases of severe and very severe chronically inflamed cervixes was calculated and the results were compared with the counts of the 50 normal cases. The following results were obtained: (Tables III & IV).

The D — E — G & I cells of the surface of the endocervical mucosa in severe chronic cervicitis are less numerous than normal and the K — L — M — N — S — V & W cells are more numerous than normal.

The ciliated cells (Y + Z) of mucous surface were encountered at a frequency of 25.05 per thousand.

The A — E & G cells of the endocervical glands in severe chronic cervicitis are less numerous than normal and the D — I — L — M — P — Q — U — V & W cells are more numerous than normal.

* The analysis of variance of some of the data presented in this paper was made with the technical assistance of Dr. Jacques M. Manceau, Superintendent of the S.E.S.P., to whom we are grateful indebted.

The ciliated cells (Y + Z) of the glands occurred at a frequency of 38.75 per thousand.

The ages of the 50 patients with severe chronic cervicitis are presented in Table VIII.

EPIDERMOID METAPLASIA

Epidermoid metaplasia was observed in the endocervical mucosa in 300 histological sections with the following intensity and frequency: Table IX.

The specific sum of each type of columnar cell of the endocervical mucosa of 50 cases with intense or diffuse metaplasia was compared with the specific sum of 50 normal cases (Tables III & IV).

The following results were obtained:

The D — E — G — I — O & Q superficial cells of the endocervical mucosa with epidermoid metaplasia are less numerous than normal and the J — K — L — N — R & S cells are more numerous than normal.

The frequency of the ciliated cells (Y + Z) of the surface was observed to be 41.15 per thousand.

The A — B — D — E & G cells of the endocervical glands in cases of epidermoid metaplasia are less numerous than normal and the K — L — M — R — U & V cells are more numerous than normal.

The ciliated cells (Y + Z) of the glands occurred with a frequency of 47.35 per thousand.

The age incidence of the 50 cases of severe cervical epidermoid metaplasia is shown in Table X.

ANATOMICAL LESIONS

The 300 cervixes studied had the following origin and diagnosis: (Table XI).

The anatomical lesion of the uterus selected for comparison with the normal cervix was that of (single or multiple) myoma of the uterine body. Comparative studies with other lesions intra-uterine or otherwise were not made because the small number of cases.

Normal cervixes from 50 cases of uterine myomata, unaccompanied by changes in the menstrual cycle, were chosen for specific count and the result of the sum of each cell was compared with the result of 50 normal cases (Tables III & IV).

The following results were noted:

The D — E — G — I — O & Q cells of the surface of the endocervical mucosa in cases of myoma of the body of uterus are less numerous than normal and the J — K — L — M — N — R — V — Y & Z cells are more numerous than normal.

The ciliated cells of the surface had a frequency of 55.70 per thousand.

The A — D — E — G & P cells of the endocervical glands in cases of myoma of the body of uterus are less numerous than normal and the I — J — K — L — M — N — R — U — V — Y & Z cells are more numerous than normal.

The ciliated cells of the glands presented the highest frequency, i. e. 66.70 per thousand.

The age distribution is presented in Table XII.

MENSTRUAL CYCLE

In the 300 cervixes studied the number of cases of trouble of the menstrual cycle is shown in Table XIII.

Fifty normal cervixes removed from uteri of patients who, *on the occasion of the surgical operation*, were in the follicular phase and 50 normal cervixes from uteri of patients who were in the luteal phase were selected. The results of the sums of each type of cell of the endocervical mucosa were compared (Tables XIV & XV) and gave the following results:

In the luteal phase the D — E & G cells of the surface of the endocervical mucosa are less numerous and the K — L — R — S — V & Y cells are more numerous (than in the follicular phase).

In the luteal phase the D — E — G & U cells of the glands are less numerous and the A — B — I — K — L — N — Q & V cells are more numerous (than in the follicular phase).

In the follicular phase there were found in the endocervical mucosa of 50 cervixes, 6,660 ciliated cells (33.39 per thousand) and in the luteal phase, 8,265 ciliated cells (41.325 per thousand).

The ages of the normal menstruant patients are presented in Table XVI.

ECTOCERVICAL EPITHELIUM

The ectocervical epithelium in the 300 histological sections revealed the changes as presented in Table XVII.

NUMBER OF NABOTHIAN CYSTS

The frequency of Nabothian cysts among the 300 histological sections of cervix is presented in Table XVIII.

NUMBER OF CERVICAL GLANDS

Each transverse section of gland of the cervical mucosa was considered as one gland for the purpose of counting. The sum of each series of 50 histological sections showed the results presented in Table XIX.

As is seen in Table XIX, in the histological sections of the normal cervixes less numerous glands were found than in cases of menstruant women. We think that this is due to the size of the "topographical" sections. The normal counts were usually made in surgically amputated cervixes. The greater number of glands encountered in old-women cervixes may perhaps be explained as a result of shrinkage of the stroma and "concentration" of glands in the "topographical" sections. In cases of chronic cervicitis and of myomata of the corpus uteri the glands are indeed more numerous than normal. The quantities obtained are statistically significant after the analysis of variance of the series.

NUMBER OF ENDOCERVICAL CYSTS

The glands of the cervical canal, particularly those next to internal cervical os, are frequently distended with mucus. The frequency of cystic glands among the 300 histological sections is showed in Table XX.

NUMBER OF DELIVERIES

The 300 cervixes were removed from women who had the following number of children: Table XXI. Specific counts were made of the endocervical epithelium of 20 uteri obtained from nullipara and from multipara women. Although the two series of women presented analogous arithmetic media of ages, results of the counts were useless because of the 20 cases of nullipara, 17 had myomata of the corpus and of the 20 multipara, 17 had prolapse of the uterus. The majority of normal counts were made in prolapsed or amputated uteri.

MATERIAL IN THE CERVICAL CANAL

The data of the material found inside the cervical canal of the 300 cervixes are listed in Table XXII. From the data obtained, the hypothesis that the acid content of the material found in the cervical canal (77% of the cases) could influence the basophilia of the cytoplasm of the columnar cells could not be demonstrated.

COMMENT

The chief reason for the change of the cellular composition of the endocervical epithelium lies in the fixation of the surgical specimen. When not sufficiently fixed, the epithelial cells in the sections show great affinity to eosin. Likewise the minimum staining time with eosin must be estimated by the examiner. We did not use neutralized Formalin nor other special fixatives because our intention was to simplify the observation.

The tracing of linear graphs from the quantities presented in Tables III & IV and XIV & XV, each one compared to normal, helped to understand and made very clear the numerical differences.

During the counts, it became very evident that there were great numerical differences in each type of cell, not only between two classes of data but also within the same class, that is, the cell type "A" not only varied numerically between NORMAL and INFLAMMATION but also within the class designated normal there was a great difference among the normal cases. Because of this fact, conclusions were drawn only in cases of great numerical differences from the normal.

In the cases of the aged women, in cases of cervicitis, epidermoid metaplasia and in cases of myomata, the columnar cells of endocervix, I — O — P & Q are less numerous than normal. As this fact is observed also with the basophilic cells and since the structure of these cells present some similarity to certain basophilic cells, they were included in the group of secretory cells. The differences in staining which they present must be due to poor fixation or incorrect procedures. Consequently, Tables XXIII & XXIV were made on according to this point of view in which we can see the proportions amongst secretory cells and those in charge of lining or protection.

CONCLUSIONS

1. The columnar cells of the endocervical mucosa may be divided into three main classes or groups:

I. Cells in charge of secretion. They are the basophilic cells, A — B — C — D — E — F — G — H and the cells I — O — P & Q.

II. Cells in charge of protecting or suffering transformation into lining cells. They are the amphophilic cells, J — K — L — M — N and the eosinophilic cells, R — S — T — U — V — W & X.

III. The ciliated cells, Y & Z.

2. The endocervical secretory cells decrease in number in old-age, in chronic cervicitis, in the epidermoid metaplasia and in cases of corpus myoma. The "D" cells are exceptional, they increase in number in old-age.

3. The endocervical cells in charge of lining or protecting increase in number in the old-age, in chronic cervicitis, in epidermoid metaplasia and in cases of corpus myoma.

4. The ciliated cells increase in number in chronic cervicitis, in the epidermoid metaplasia and in cases of corpus myoma. They decrease in old-age.

5. In the columnar epithelium of the surface of the mucosa there exist, in normal cases, two times as many secretory cells as lining cells. In "non-normal" there are more lining cells than secretory cells (Table XXIII). In the columnar epithelium of the glands the ratio between secretory and lining cells was respectively: normal, 6.8 times; in old-age, 3 times; in cervicitis, 2.8 times; in epidermoid metaplasia, 2.8 times and in cases of myoma, 2.1 times (Table XXIV).

6. In the luteal phase the secretory and lining cells presented numerical changes analogous to those found in the counts of the cervixes of the "nonnormal" cases.

7. In chronic cervicitis and in cases of corpus myoma the endocervical mucosa contains more glands than normal.

SUMMARY

In the second part of this paper we analysed the correlation between the clinical pathological alterations and the sum of the types of columnar cells of 300 histological sections of cervix.

Fifty histological sections of normal cervix of sexually mature women were selected and considered as normal in pattern.

The specific counts of the columnar cells which line the endocervical mucosa and those of the glands of 50 normal cervixes were compared with other similar counts made in 50 histological sections of cervixes of old women and emphasized the differences.

Comparisons were made also between 50 normal cervixes and 50 sections of cervixes with chronic inflammation, 50 cervixes with epidermoid metaplasia and 50 cervixes with myoma of the corpus.

Counts were made from 50 cervixes of patients who on the occasion of the surgical operation were in the proliferative phase of the menstrual cycle; these were compared with the counts of 50 cervixes of uteri in the luteal phase.

Finally, the numerical frequency of the following data encountered in the 300 cervixes was recorded: 1. aspects of the ectocervical epithelium; 2. number of Nabothian cysts; 3. number of cervical glands; 5. number of deliveries and 6. aspect of the material within the cervical canal.

RESUMO

Nesta segunda parte do trabalho foram analisadas as correlações existentes entre as diversas alterações clínico-patológicas e os números obtidos pela contagem das células cilíndricas de 300 cortes histológicos do colo do útero.

Foram separados 50 cortes histológicos normais do colo do útero de mulheres sexualmente maduras e sem outras lesões. Estes 50 casos foram considerados normais.

As contagens das células dos 50 casos normais foram comparadas com outras contagens feitas em 50 cortes do colo uterino de mulheres velhas, e observadas as diferenças. Também foram feitas comparações entre os números obtidos em 50 cortes normais no colo com outros 50 cortes com cervicite crônica intensa, com 50 cortes com metaplasia epidermóide da endocérvice e com 50 cortes de colos de úteros com miomas do corpo.

Foram feitas contagens das células cilíndricas dos epitélios endocervicais de 50 colos de útero de pacientes que, na ocasião da operação, (histerectomia), estavam na primeira fase do ciclo menstrual e comparadas com as contagens de 50 colos de pacientes na segunda fase do ciclo menstrual.

Finalmente foram apresentadas as frequências estatísticas, em 300 colos do útero, das seguintes alterações: aspecto da ectocérvice, número de cistos de Naboth, número de glândulas endocervicais, número de cistos endocervicais, número de filhos e aspecto do material contido no canal cervical.

Após estudo estatístico comparativo dos números obtidos nas contagens dos colos normais e não normais, chegamos às seguintes conclusões principais:

1.^a — As células cilíndricas da mucosa endocervical podem ser divididas em três grupos principais:

I — Células com função secretória (A — B — C — D — E — F — G — H — I — O — P — Q). II — Células com função de revestimento (J — K — L — M — N — R — S — T — U — V — W — X) e III — células ciliadas (Y — Z).

2.^a — As células secretórias da mucosa endocervical diminuem em número na velhice, na cervicite crônica, na metaplasia epidermóide e nos casos de mioma do corpo do útero. Excetua-se a célula "D" que é mais numerosa na velhice.

3.^a — As células da mucosa endocervical com função de revestimento aumentam em número na velhice, na cervicite crônica, na metaplasia epidermóide e nos casos de mioma.

4.^a — As células ciliadas são mais numerosas na cervicite crônica, na metaplasia epidermóide e nos casos de mioma do corpo. São menos numerosas na velhice.

5.^a — No epitélio cilíndrico da superfície da mucosa existe, nos casos normais, duas vezes mais células secretórias do que de revestimento. Nos casos "não normais" existem mais células em função de revestimento do que células secretórias. No epitélio cilíndrico das glândulas endocervicais, a proporção entre as células secretórias e as de revestimento foi, respectivamente de: normal, 6,8 vezes; na velhice, 3 vezes; nas cervicites e na metaplasia epidermóide, 2,8 vezes e nos casos de mioma do corpo, 2,1 vezes.

6.^a — Na segunda metade do ciclo menstrual as células secretórias e as de revestimento apresentaram variações quantitativas comparáveis às encontradas nas contagens do colo uterino nos casos "não normais".

7.^a — Na cervicite crônica e em casos de mioma do corpo a mucosa endocervical possui maior número de glândulas do que o normal.

TABLE I
Distribution of the data and cell counts

Histological section. N.º	1. Age of the patient	2. Inflammation	3. Metaplasia	4. Anatomical diagnosis	5. Menstrual changes	2,000 cells of the surface		2,000 cells of the glands		Other data (+)
						A B C.....Y Z	A B C.....Y Z			
6996	42	+	2	M	2nd	0 0 0.....0 0	0 0 0.....5 10	(+)		

- (+) 6. Aspects of the endocervical epithelium
 7. N.º of Nabothian cysts
 8. N.º of endocervical glands
 9. N.º of endocervical cysts
 10. N.º of deliveries
 11. Material in the endocervical canal.

TABLE II
Age distribution among 300 patients

AGE GROUPS	N.º of cases
10 -- 19.....	5
20 -- 29.....	31
30 -- 39.....	95
40 -- 49.....	111
50 -- 59.....	42
60 -- 69.....	15
70 -- 79.....	1
TOTAL.....	300

TABLE III

Result of the sum of the cellular types of 50 histological sections
Epithelium of the surface of endocervix

	Normal	Old-age	Inflammation	Metaplasia	Myoma
A.....	200	140	200	0	100
B.....	0	300	30	150	700
C.....	0	0	0	100	400
D.....	13,655	17,920	10,125	10,440	6,910
E.....	32,355	16,760	17,355	23,135	17,630
F.....	200	300	0	200	300
G.....	13,080	950	7,125	10,350	7,640
H.....	0	300	200	450	100
I.....	2,530	500	550	900	1,100
J.....	150	1,140	900	1,405	1,550
K.....	10,435	12,770	16,460	16,170	14,230
L.....	5,380	7,750	7,900	7,040	9,200
M.....	6,755	11,520	13,400	8,330	15,630
N.....	740	5,570	3,800	3,600	4,350
O.....	2,550	6,850	2,250	1,000	850
P.....	600	300	200	700	0
Q.....	1,850	200	1,230	0	250
R.....	850	1,000	420	1,600	2,000
S.....	200	3,170	1,270	2,090	1,000
T.....	50	100	60	450	100
U.....	550	840	1,200	1,425	250
V.....	3,620	7,070	9,000	4,605	8,380
W.....	1,800	2,730	3,620	1,545	1,660
X.....	100	0	200	200	100
Y.....	910	1,230	1,000	2,210	3,140
Z.....	1,440	590	1,505	1,905	2,430
TOTAL	100,000	100,000	100,000	100,000	100,000

TABLE IV

Result of the sum of the cellular types of 50 histological sections
Epithelium of the endocervical glands

	Normal	Old-age	Inflammation	Metaplasia	Myoma
A.....	2,680	1,980	700	0	475
B.....	1,000	1,350	200	0	450
C.....	0	550	250	400	300
D.....	28,240	40,480	30,730	24,395	15,850
E.....	25,750	17,825	17,375	23,070	19,155
F.....	500	400	350	1,000	850
G.....	17,485	2,250	7,245	12,335	10,340
H.....	500	0	0	200	200
I.....	4,400	3,900	6,560	5,445	6,400
J.....	550	850	500	1,050	1,600
K.....	7,540	7,500	7,970	10,940	14,290
L.....	870	3,275	3,250	2,970	6,970
M.....	975	2,550	3,300	2,110	3,010
N.....	100	1,400	880	360	1,150
O.....	200	1,450	200	0	0
P.....	1,975	2,300	4,325	2,100	850
Q.....	1,550	1,080	2,625	1,080	780
R.....	0	300	800	1,150	2,140
S.....	110	1,930	690	450	700
T.....	0	0	0	400	100
U.....	375	2,550	2,775	1,950	2,150
V.....	1,630	2,350	2,650	3,660	5,050
W.....	150	450	2,750	200	520
X.....	0	50	0	0	0
Y.....	2,320	2,000	2,340	3,275	4,490
Z.....	1,080	1,230	1,535	1,460	2,180
TOTAL	100,000	100,000	100,000	100,000	100,000

TABLE V
Age distribution of 50 normal patients

AGE GROUPS	N.º of cases
20 — 29.....	13
30 — 39.....	23
40 — 49.....	14

TABLE VI
Age distribution of 50 old-age women

AGE GROUPS	N.º of cases
50 — 59.....	34
60 — 69.....	15
70 — 79.....	1

TABLE VII
Incidence and degree of inflammation among 300 cervixes

INFLAMMATION	N.º of cases
No inflammation.....(—)	56
Slight.....(+)	79
Moderate.....(++)	89
Severe.....(+++)	51
Very severe.....(++++)	25
TOTAL.....	300

TABLE VIII
Age incidence of 50 patients with severe chronic cervicitis

AGE GROUPS	N.º of cases
10 — 19.....	3
20 — 29.....	6
30 — 39.....	15
40 — 49.....	15
50 — 59.....	6
60 — 69.....	5
TOTAL.....	50

TABLE IX
Incidence of metaplasia among 300 cervixes

METAPLASIA	N.º of cases
Metaplasia absent..... (—)	104
Slight or focal..... (—1)	75
Moderate..... (—2)	58
Intense or diffuse..... (3)	63
TOTAL.....	300

TABLE X
Age distribution of 50 patients with epidermoid metaplasia

AGE GROUPS	N.º of cases
10 — 19.....	1
20 — 29.....	0
30 — 39.....	19
40 — 49.....	25
50 — 59.....	4
60 — 69.....	1
TOTAL.....	50

TABLE XI
Source and types of lesions in the 300 studied specimens

ORIGIN	DIAGNOSIS	N.º of cases
Cervical amputation.....	Prolapse (A).....	89
Hysterectomy.....	Myoma (M).....	105
Hysterectomy.....	Prolapse (P).....	47
Hysterectomy.....	Carcinoma (Ca).....	15
Hysterectomy.....	Miscellaneous.....	34
Autopsy.....	Sudden death.....	10
TOTAL.....	—	300

TABLE XII
Age distribution of 50 cases of myoma of the uterus

AGE GROUPS	N.º of cases
20 — 29.....	2
30 — 39.....	18
40 — 49.....	28
50 — 59.....	2

TABLE XIV

Result of the sum of the cellular types of 50 histological sections

I — Epithelium of the surface

	Follicular phase	Luteal phase
A.....	200	150
B.....	300	450
C.....	100	400
D.....	12,005	8,160
E.....	25,390	24,040
F.....	600	300
G.....	13,515	9,620
H.....	250	0
I.....	1,780	1,680
J.....	1,315	640
K.....	13,765	14,750
L.....	7,220	8,620
M.....	9,205	9,380
N.....	2,250	2,290
O.....	1,600	1,300
P.....	200	0
Q.....	1,280	1,250
R.....	300	2,550
S.....	100	2,630
T.....	20	60
U.....	900	500
V.....	4,190	5,720
W.....	1,000	1,850
X.....	0	500
Y.....	615	1,750
Z.....	1,900	1,410
TOTAL	100,000	100,000

TABLE XV

Result of the sum of the cellular types of 50 histological sections

II — Epithelium of the glands

	Follicular phase	Luteal phase
A.....	1,880	3,005
B.....	890	2,000
C.....	0	200
D.....	27,415	16,790
E.....	22,290	20,380
F.....	700	490
G.....	15,170	14,070
H.....	500	0
I.....	6,455	7,500
J.....	700	250
K.....	8,980	11,180
L.....	900	4,970
M.....	1,225	1,930
N.....	200	1,050
O.....	0	0
P.....	1,850	1,300
Q.....	1,700	2,680
R.....	800	1,600
S.....	350	750
T.....	109	0
U.....	1,975	900
V.....	1,425	3,350
W.....	350	500
X.....	0	0
Y.....	2,630	3,270
Z.....	1,515	1,835
TOTAL	100,000	100,000

TABLE XIII

Distribution of the 300 specimens of cervixes studied according to menstrual changes

	N.º of cases
Follicular phase.....	50
Luteal phase.....	86
Menopausal phase.....	58
Metrorrhagia.....	38
Amenorrhoea.....	18
Miscellaneous.....	50
TOTAL.....	300

TABLE XVI
Age distribution of 50 menstruant patients

AGE GROUPS	N.º OF PATIENTS	
	Follicular	Luteal
10 — 19.....	0	4
20 — 29.....	10	6
30 — 39.....	21	22
40 — 49.....	19	18
TOTAL.....	50	50

TABLE XVII
Changes of the ectocervical epithelium among 300 cervices

EPITHELIAL ASPECTS	N.º of cases
Normal.....	186
Parakeratosis.....	89
Hyperkeratosis.....	18
Basal hyperplasia.....	7
TOTAL.....	300

TABLE XVIII
Frequency of Nabothian cysts among 300 cervices

N.º OF CYSTS	N.º of cases
Absence of cysts.....	131
1 — 4.....	124
5 — 9.....	33
10 — 19.....	9
20 — 29.....	3
TOTAL.....	300

TABLE XIX
Total of cervical glands in 50 histological sections

N.º of cases	CERVICES	N.º of glands
50	Normal cervices.....	6 047
50	Senile cervices.....	7 217
50	Inflammation.....	8 337
50	Metaplasia.....	7 190
50	Myomatous uteri.....	9 295
50	Proliferative phase.....	7 057
50	Luteal phase.....	7 871

TABLE XXIII**Functional groups of columnar cells in 50 histological sections****I — Epithelium of the surface**

CELLULAR GROUPS	Normal	Old-age	Inflammation	Metaplasia	Myoma
Secretory.....	67,020	44,520	39,265	47,425	35,980
Lining.....	30,630	53,660	58,230	48,460	58,450
Ciliated.....	2,350	1,820	2,505	4,115	5,570
TOTAL.....	100,000	100,000	100,000	100,000	100,000

TABLE XXIV**Functional groups of columnar cells in 50 histological sections****II — Glandular epithelium**

CELLULAR GROUPS	Normal	Old-age	Inflammation	Metaplasia	Myoma
Secretory.....	84,280	73,565	70,560	70,025	63,300
Lining.....	12,320	23,205	25,565	25,240	30,030
Ciliated.....	3,400	3,230	3,875	4,735	6,670
TOTAL.....	100,000	100,000	100,000	100,000	100,000

TABLE XX**Incidence of cysts encountered among the 300 cervixes**

N.º OF CYSTS	N.º of cases
Absence of cysts.....	109
1 — 4.....	92
5 — 9.....	47
10 — 19.....	36
20 — 29.....	7
30 — 70.....	6
80 — 100.....	3
TOTAL.....	300

TABLE XXI
Deliveries distribution among 300 cases

N.º OF DELIVERIES	N.º of cases
Nullipara.....	24
1 — 4.....	112
5 — 9.....	32
10 — 16.....	14
Without data.....	118
TOTAL.....	300

TABLE XXII
Material found in the cervical canal

MATERIAL	N.º of cases
Acidophilic mucoid with blood.....	184
(Basophilic) Mucus.....	35
Acidophilic mucoid.....	26
Blood.....	17
Absence of material.....	9
Mucus with blood.....	8
Unverified cases.....	21
TOTAL.....	300