

A STUDY ON THE PATHOLOGY OF ABORTION



being a thesis submitted by

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# ILLUSTRATIONS

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FIGURE 2: Intact empty sac: agenesis variety. The sac is opened to show absence of the amnion. 12 weeks gestation.

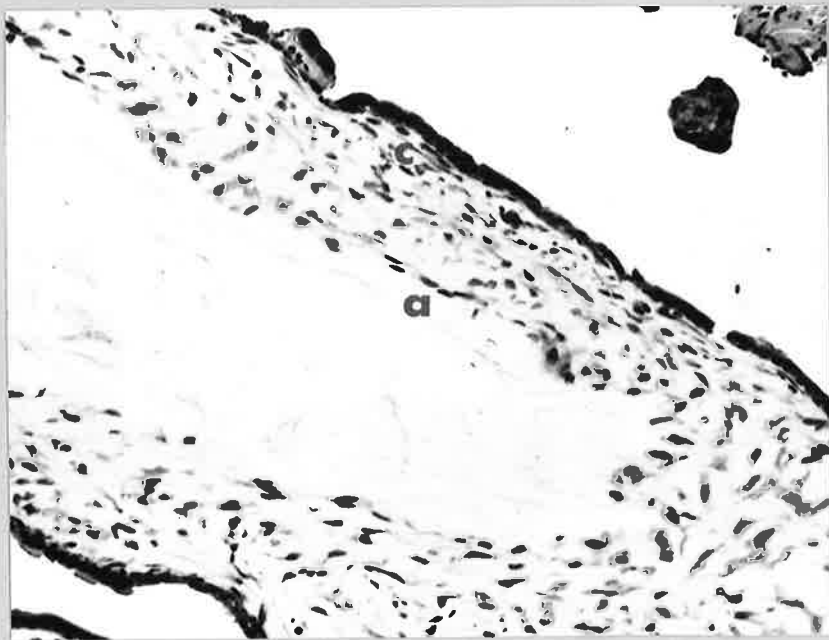


FIGURE 3: Intact empty sac: agenesis variety. Microscopical confirmation of absence of the amnion in position a. Chorion is marked c. 8 weeks gestation. H. & E. X 650.

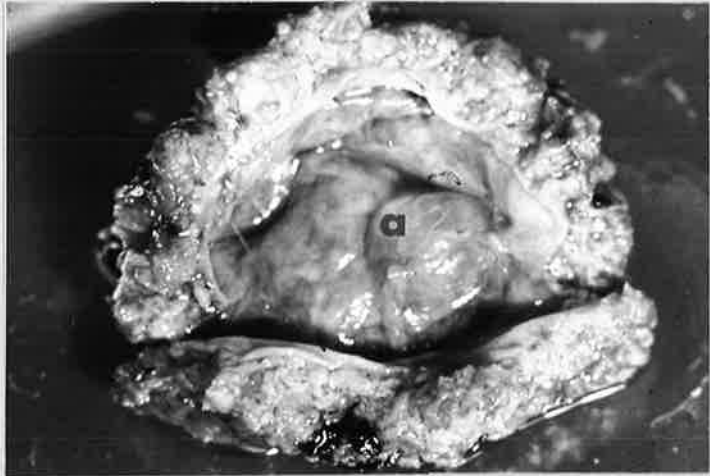


FIGURE 4: Intact empty sac: absent embryo variety. Amnion is marked a. 15 weeks gestation. Diameter of the sac 2.5 cm. (Reproduced from *Obstet. and Gynec.* 32:319, plate 1A, 1968).

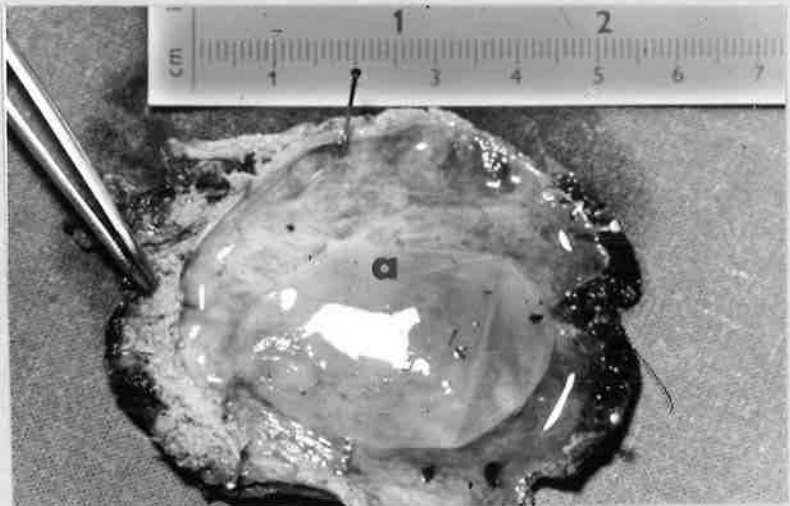


FIGURE 5: Intact empty sac: absent embryo variety. Amnion is marked a. The white irregular area in the middle of the amnion is a reflection of the flash light. 13½ weeks gestation.



FIGURE 6: Nodular foetus. 0.5 cm. in size. 12 weeks gestation.



FIGURE 7: Nodular foetus. 0.8 cm. in size. 13 weeks gestation.

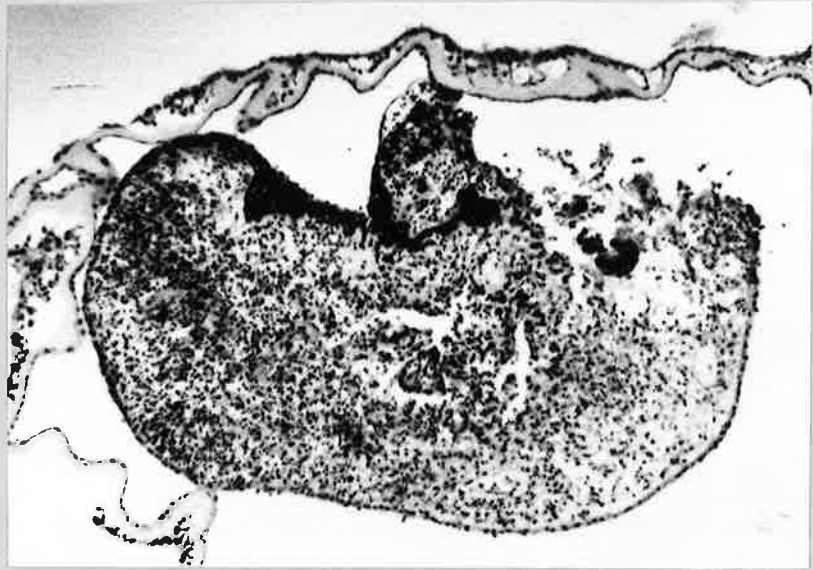


FIGURE 8: Nodular foetus; undifferentiated tissues attached directly to the amnio-chorionic membrane. 12½ weeks gestation. H. & E. X 80.

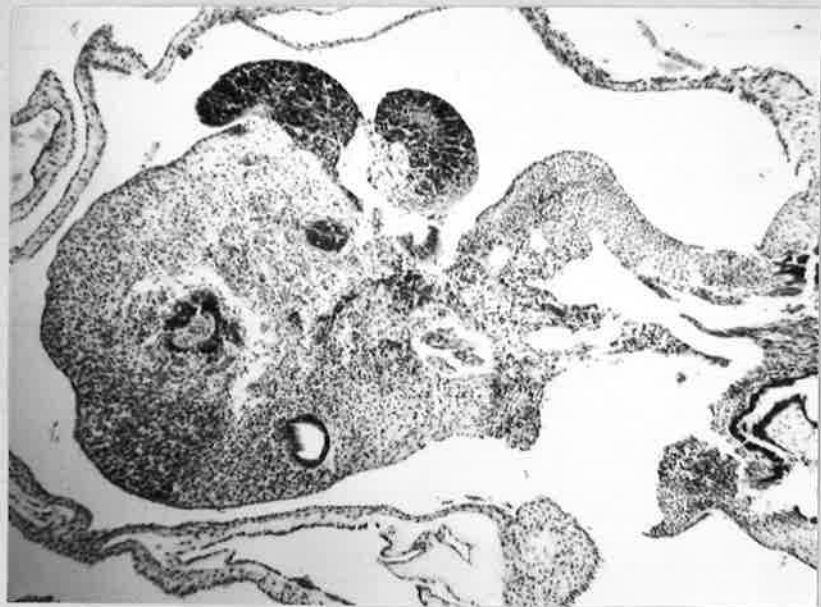


FIGURE 9: Nodular foetus; undifferentiated tissues attached directly to the amnio-chorionic membrane. 12 weeks gestation. H. & E. X 50.



FIGURE 10: Fatty nodules in chorion. May be confused with nodular foetus unless microscopical examination is performed. Idiopathic abortion. Gestation age 12 weeks.

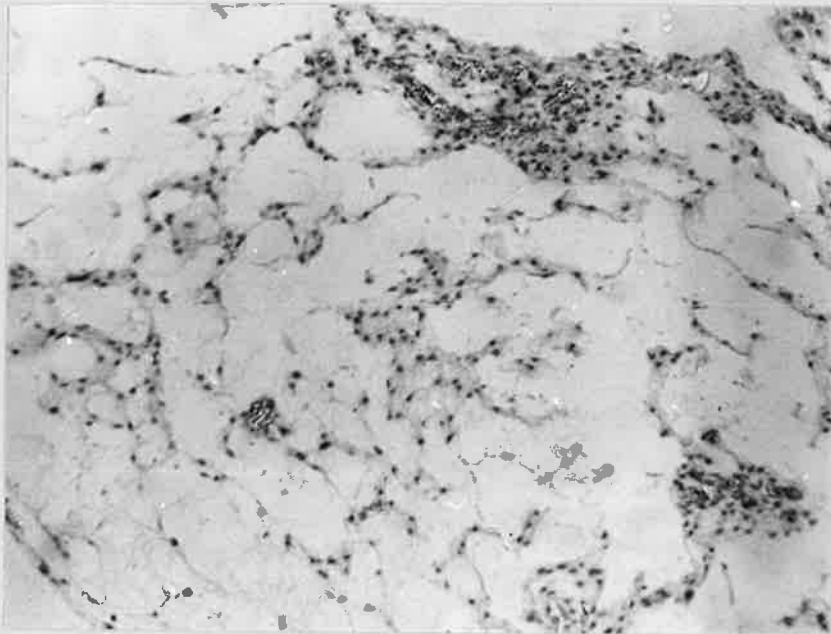


FIGURE 11: Microscopical appearance of one of the chorionic fatty nodules in Figure 10. H. & E. X 100.



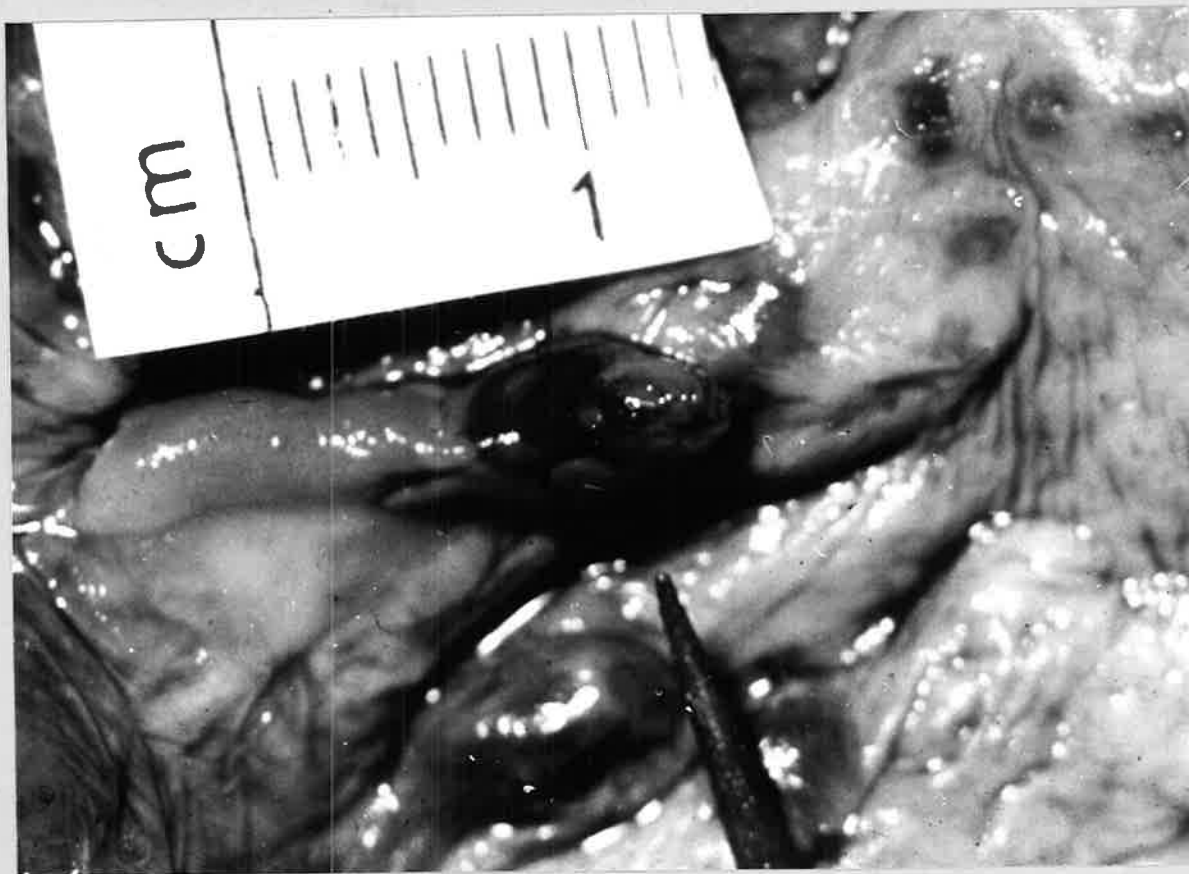


FIGURE 12: Stunted foetus exhibiting well formed head, trunk and limbs. 17 weeks gestation. (Reproduced from Proceedings of Fifth World Congress of Gynaecology and Obstetrics, p. 711, 1967).



FIGURE 13: Stunted fetus. The pointer indicates an umbilical cord to which is attached a stunted fetus vaguely differentiated into head and trunk. There are no limb buds. 12 weeks gestation. Length of the fetus 0.7 cm. (Reproduced from *Obstet. and Gynec.* 32: 319, plate 1C, 1968).

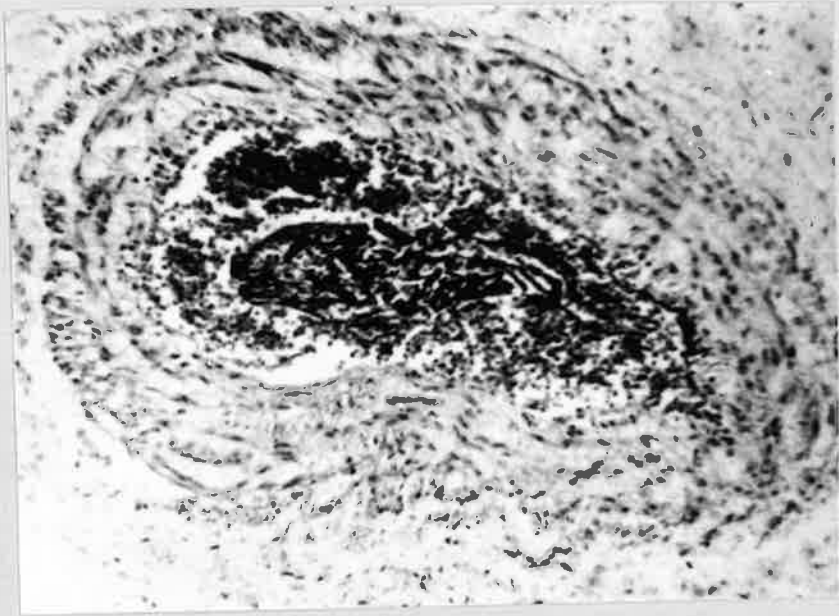


FIGURE 14: Fibrin strands in a cord thrombus. Foetal death due to coiling of the cord. 11 weeks gestation. Modified P.T.A.H. X 140.



FIGURE 15: Torsion of the cord at foetal end. 16 weeks gestation.

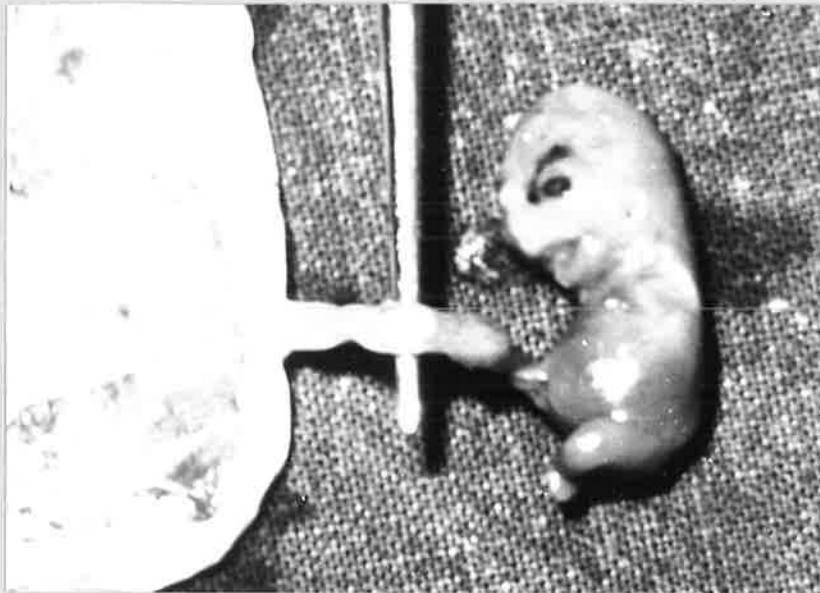


FIGURE 16: Torsion of the cord at foetal end. A magnified view of Figure 15.

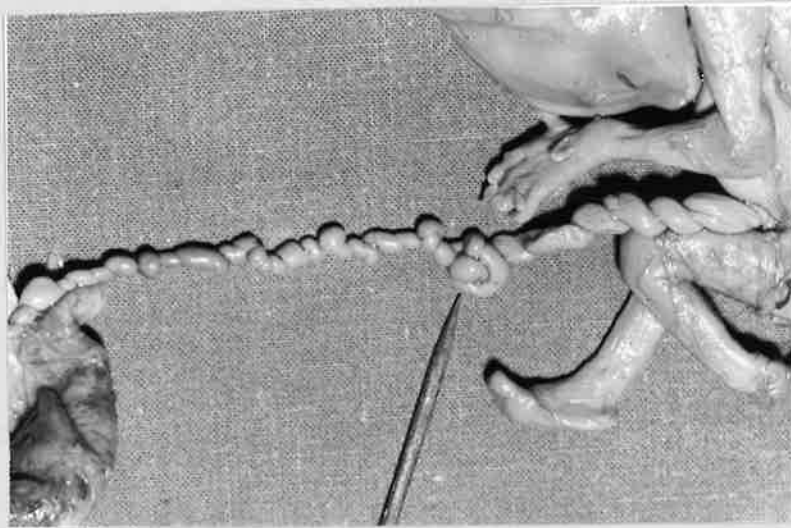


FIGURE 17: Continuous torsion of the cord associated with placental infarction. 27 weeks gestation.



FIGURE 18: Coiling of the cord around right groin and left thigh caused grooving indicated by arrows. 22 weeks gestation.



FIGURE 19: Coiling of the cord around neck and right arm resulted in grooving and strangling; note the swelling and engorgement of the neck and face. 22 weeks gestation.



FIGURE 20: Stricture of the cord. Note the gangrene of both the legs. 17 weeks gestation.

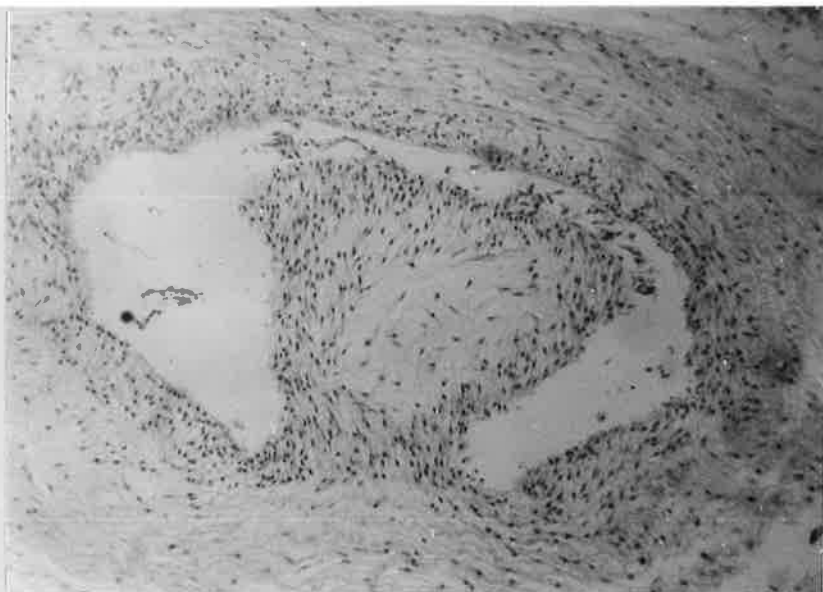


FIGURE 21: Hyperplastic protrusion of the blood vessel wall into the lumen in a specimen of stricture of the cord. 13 weeks gestation. H. & E. X 100.



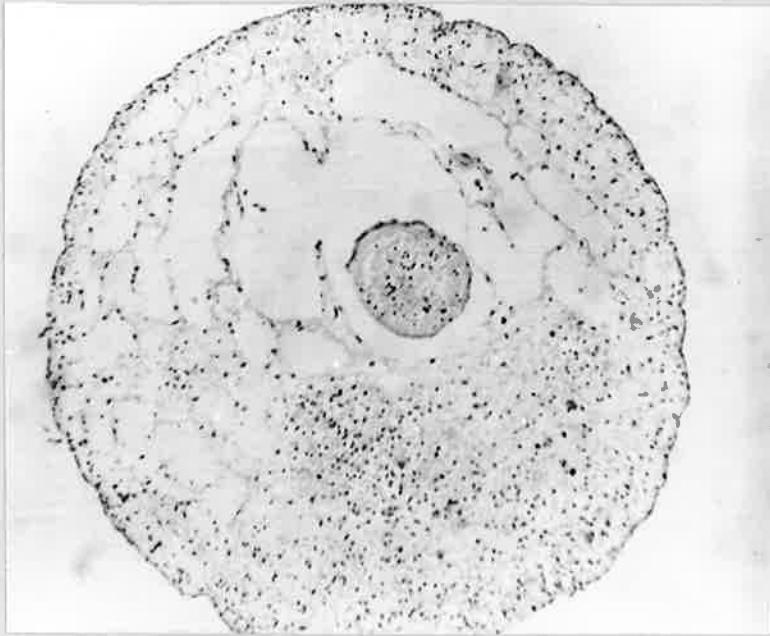


FIGURE 22: Umbilical cord with one blood vessel only in a specimen of stunted foetus. 11 weeks gestation. H. & E. X 70.

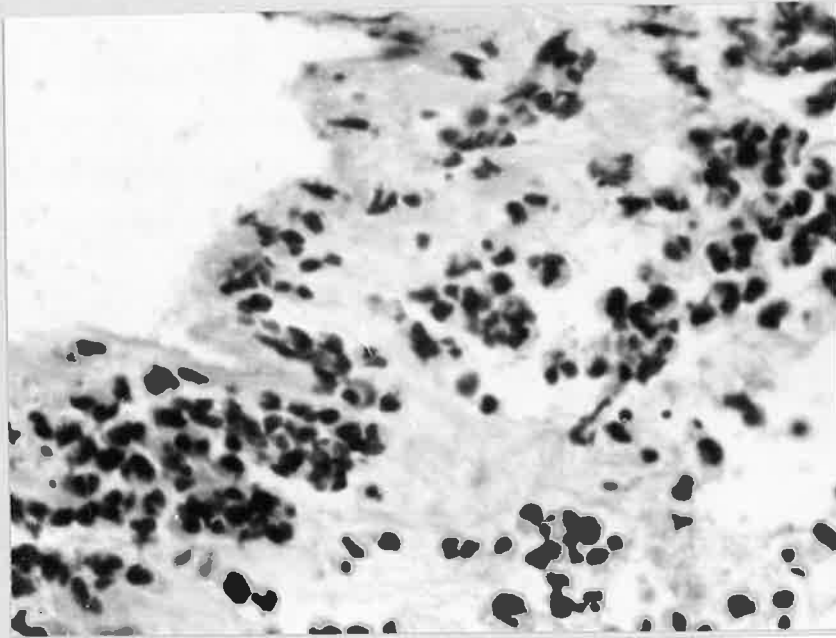


FIGURE 23: Funisitis in septic abortion. Acute inflammatory changes in the Wharton's jelly. 25 weeks gestation. H. & E. X 650.

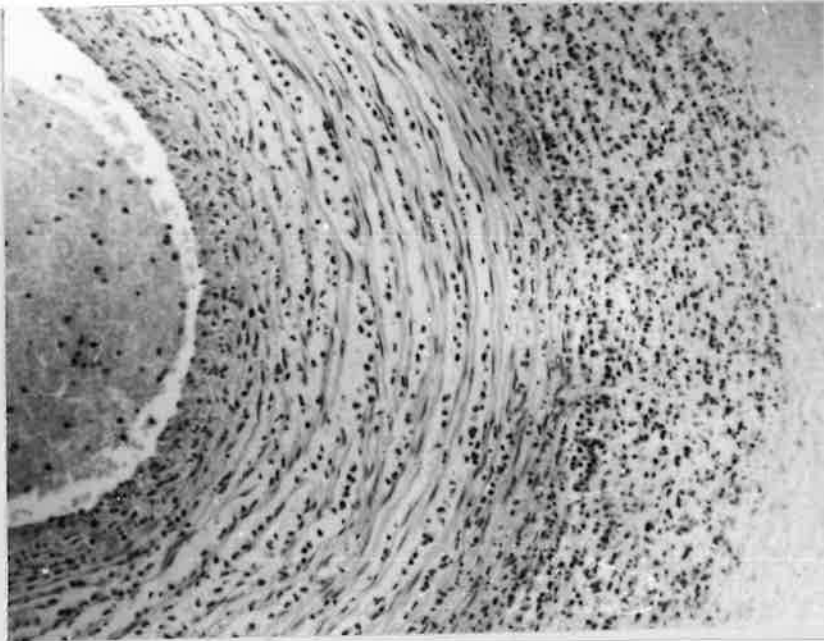


FIGURE 24: Funisitis in septic abortion. Acute inflammatory changes in blood vessel wall. H. & E. X 160.



FIGURE 25: Cyst of the umbilical cord. Diameter 0.5 cm. The foetus is stunted with well formed head, trunk and limbs. 12 weeks gestation.

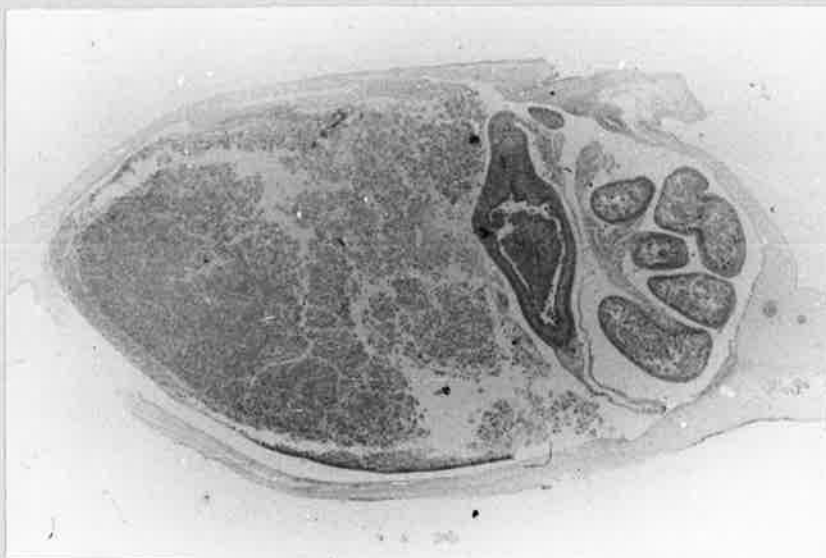


FIGURE 26: Histological appearance of exomphalos. Coils of intestine are seen in the right part of the cord. 19 weeks gestation. H. & E. X 9.

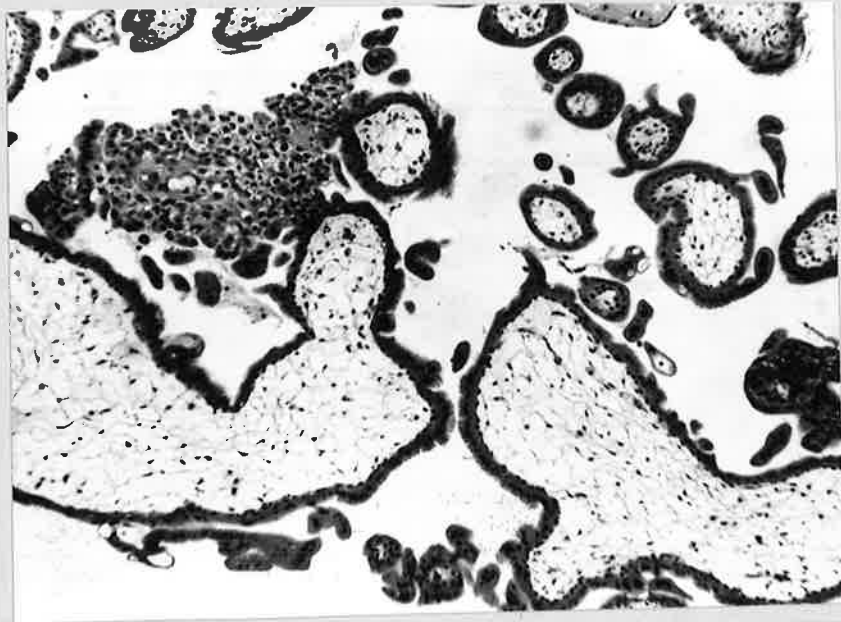


FIGURE 27: Avascular villi. Note normal appearance of the stroma and trophoblast; compare with hydropic villi in Figure 28. 12 weeks gestation. H. & E. X 100. (Reproduced from *Obstet. and Gynec.* 32:318, Fig. 1, 1968).



FIGURE 28: Hydropic villi. Note degenerate appearance of the stroma and trophoblast of the distended villi. 13 weeks gestation. H. & E. X 100. (Reproduced from *Obstet. and Gynec.* 32:321, Fig. 2, 1968).

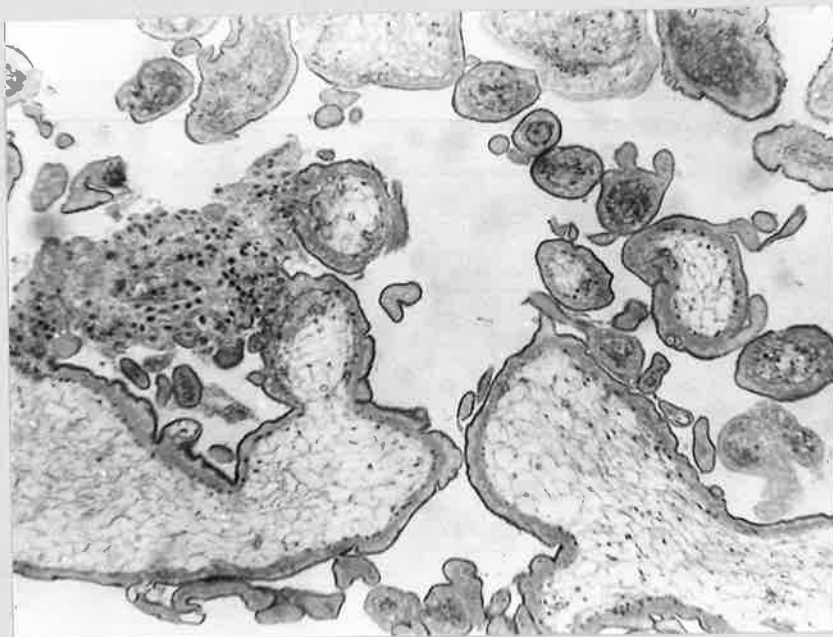


FIGURE 29: Avascular villi demonstrating absence of mucin in the stroma; compare with hydropic villi in Figure 30. 12 weeks gestation. Lison's alcian blue X 100. (Reproduced from *Obstet. and Gynec.* 32:318, Fig. 1, 1968).



FIGURE 30: Hydropic villi distended with mucin in the stroma. 13 weeks gestation. Lison's alcian blue X 100. (Reproduced from *Obstet. and Gynec.* 32:321, Fig. 2, 1968).

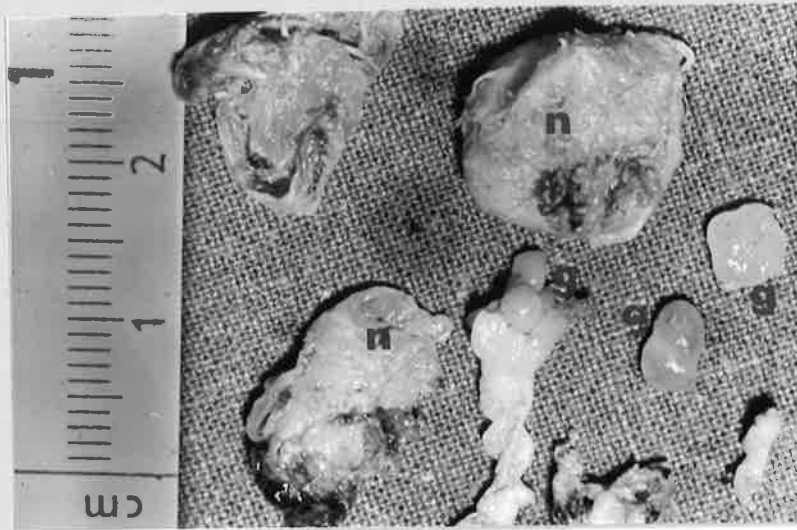


FIGURE 31: Hydatidiform degeneration of placenta. Grape-like vesicles are marked g and normal placenta is marked n. 24 weeks gestation.

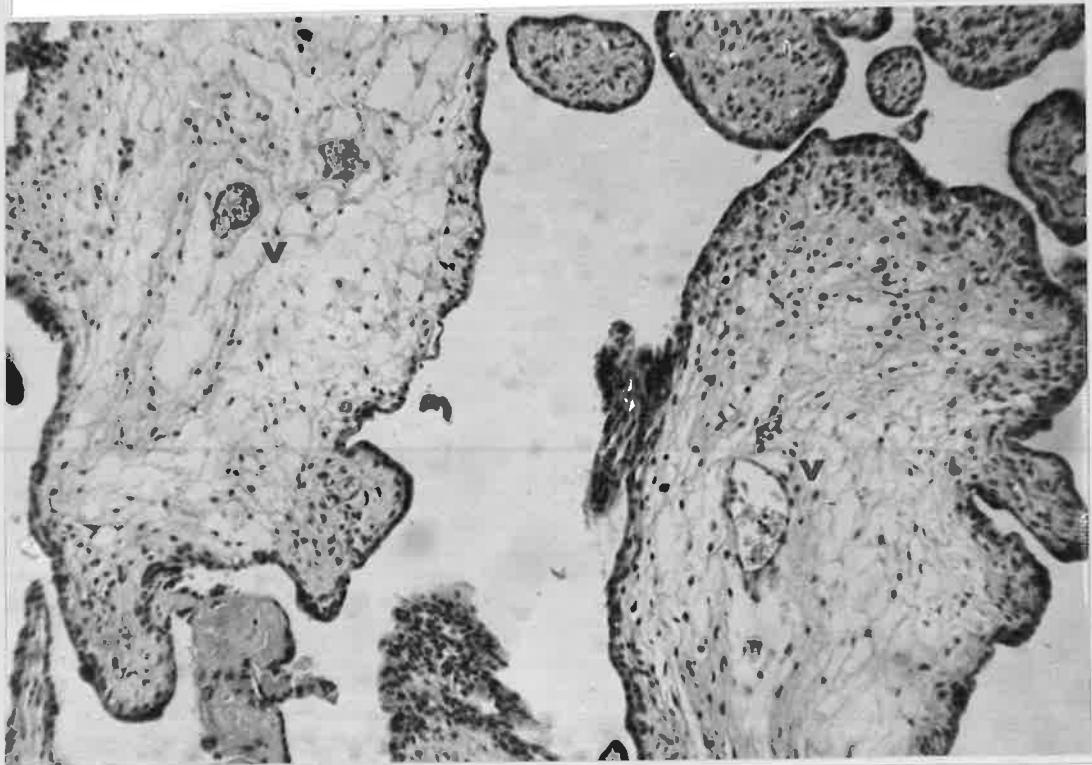


FIGURE 32: Grape-like vesicles marked v, in hydatidiform degeneration of placenta. Note the presence of blood vessels and absence of fluid in the stroma. H. & E. X 100.

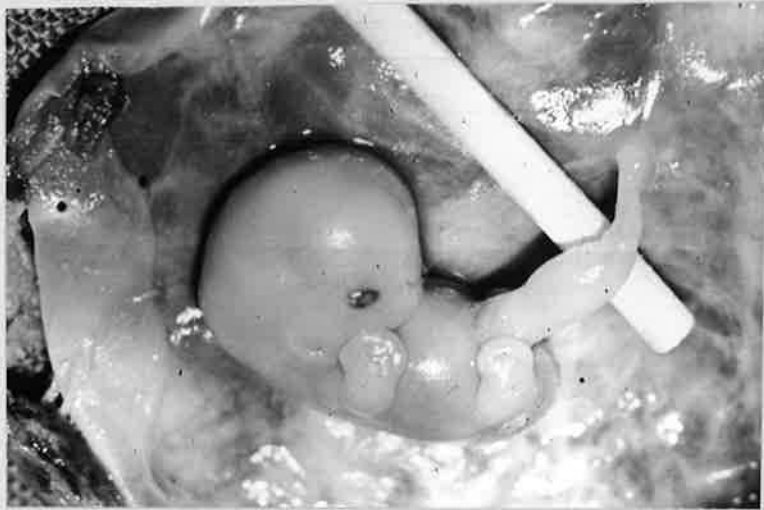


FIGURE 33: Normal, non-macerated foetus in a specimen of placental insufficiency due to fibrosis of villi. 13 weeks gestation.

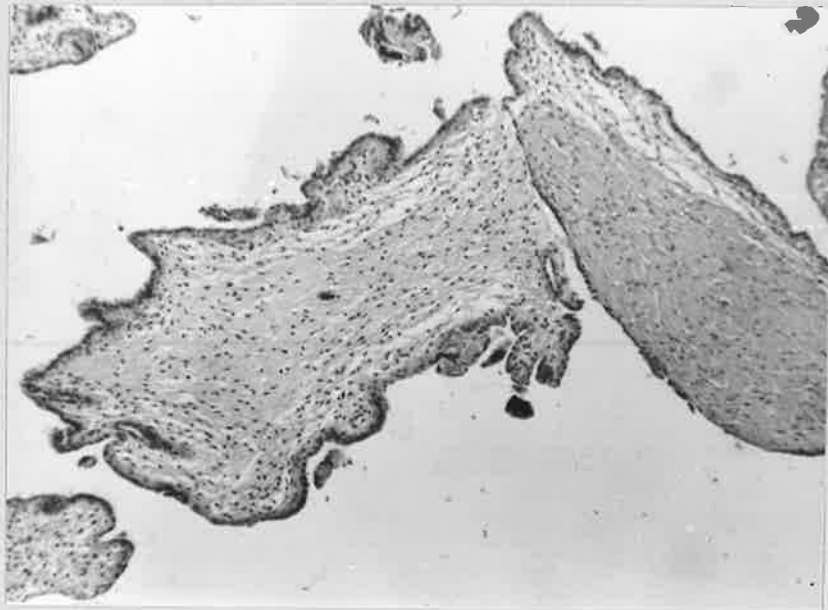
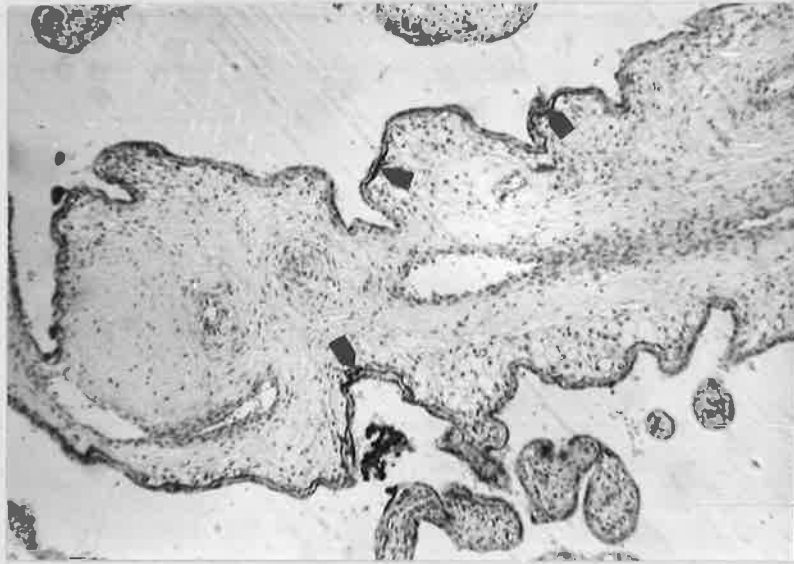
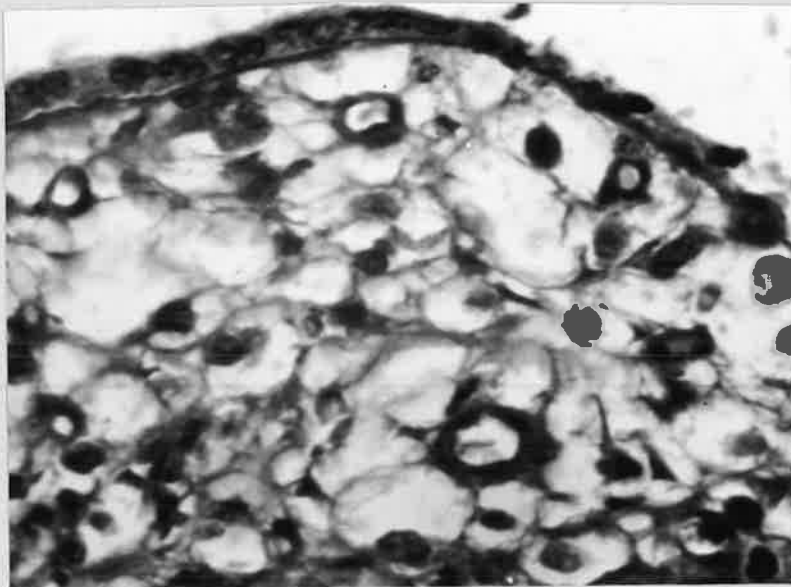
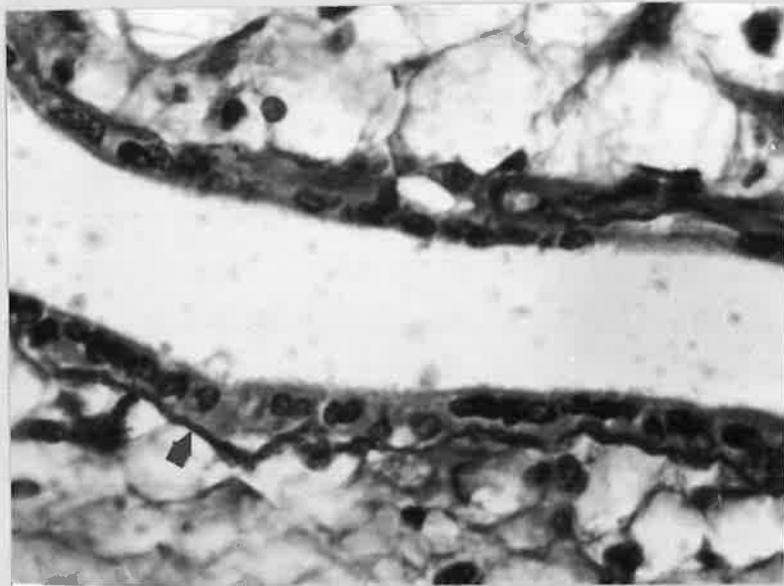


FIGURE 34: Fibrosis of otherwise normal villi indicating placental insufficiency. 14 weeks gestation. H. & E. X 100.



FIGURES 35 and 36: Basement membrane thickening of cytotrophoblast in placental insufficiency. The thickened basement membrane is indicated by arrows. 18 weeks gestation. H. & E. X 145.





FIGURES 37 and 38: P.A.S. positive thickened basement membrane of cytotrophoblast in placental insufficiency. 18 weeks gestation. P.A.S. X 750.

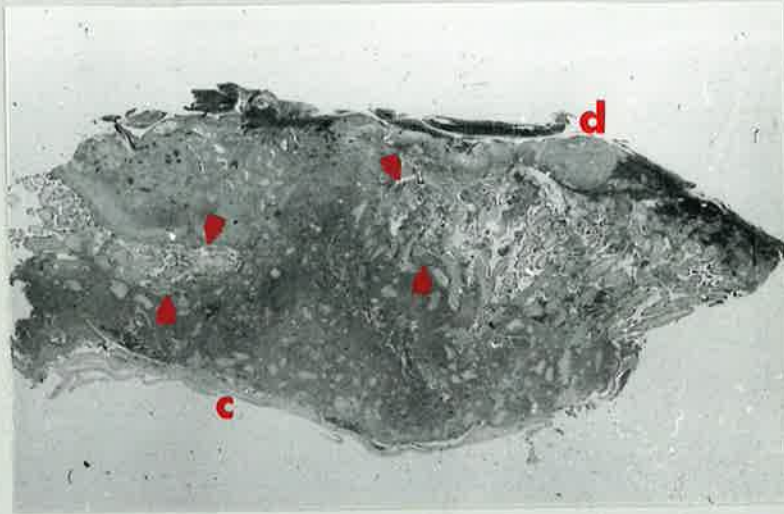


FIGURE 39: Placental infarction. Borders of the infarct are indicated by arrows. Chorion is marked c and decidua is marked d. 13 weeks gestation. H. & E. X 5.5.



FIGURE 40: Placental infarction. Note absence of nuclei in the trophoblast and necrotic appearance of the stroma. 12 weeks gestation. H. & E. X 120.

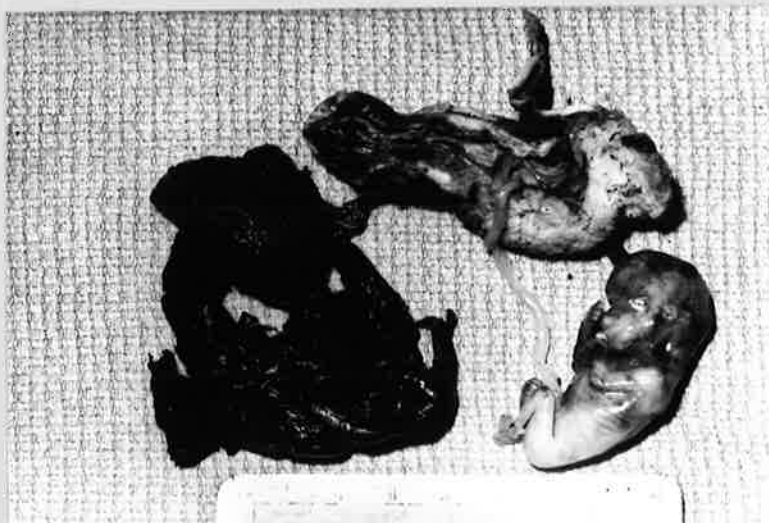


FIGURE 41: Abortion due to placental haemorrhage;  
normal foetus, cord and placental villi.  
21 weeks gestation.

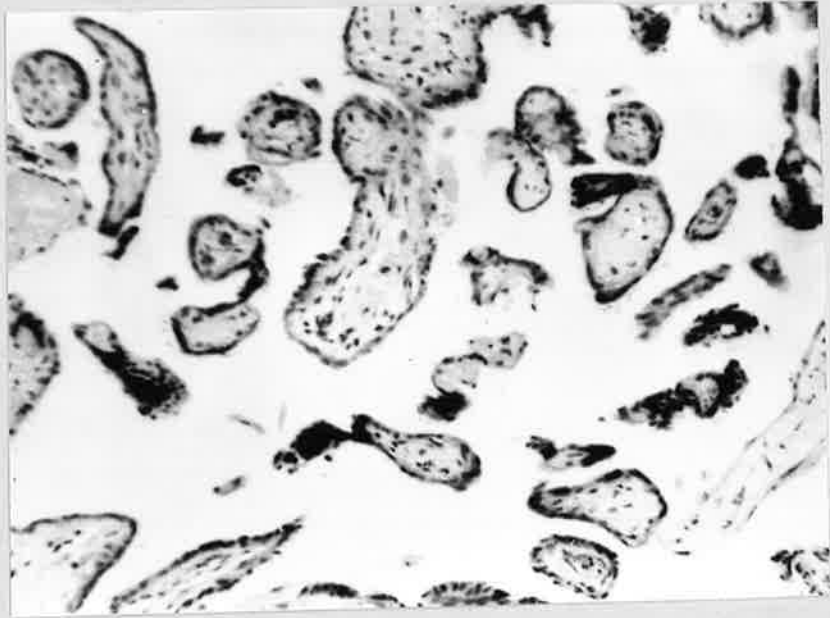


FIGURE 42: Degenerate villi in a specimen of idiopathic abortion. 14 weeks gestation. H. & E. X 145.

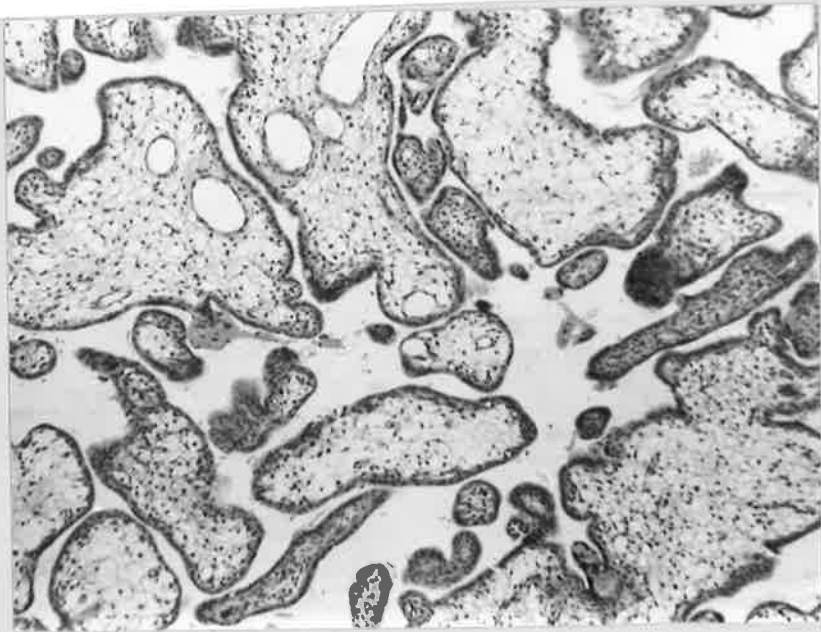


FIGURE 43: Normal villi in a specimen of abortion induced for medical indications. 15 weeks gestation. H. & E. X 100.

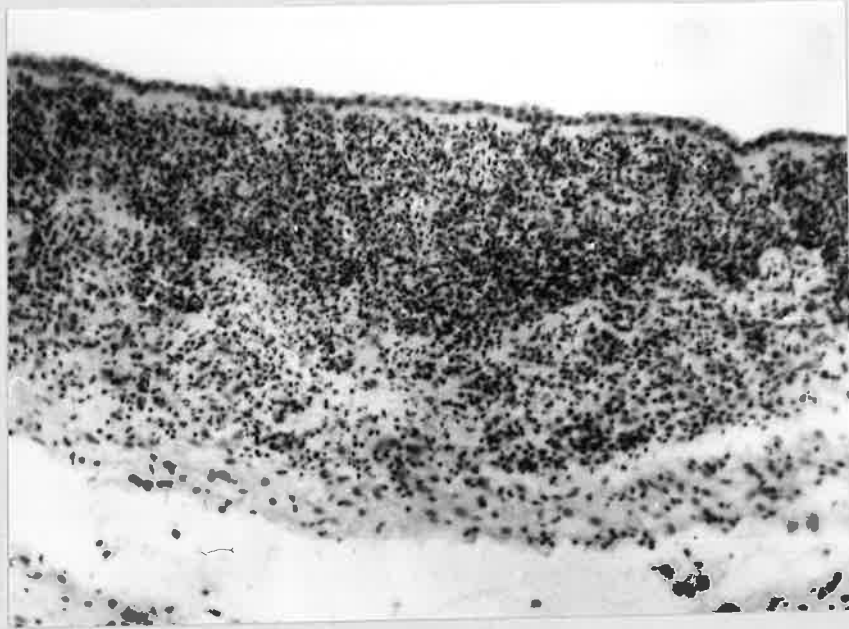


FIGURE 44: Amnionitis in a specimen of septic abortion. 18 weeks gestation. H. & E. X 170.

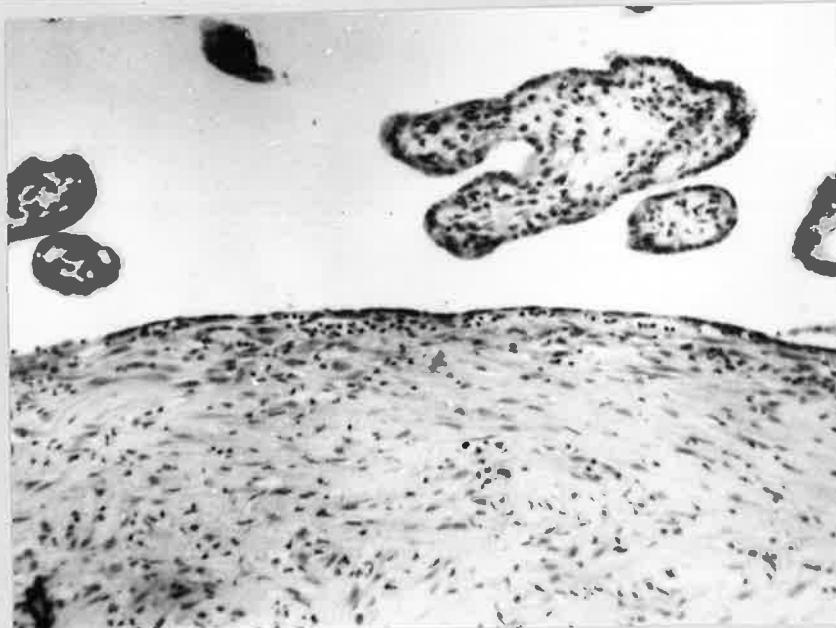


FIGURE 45: Chorionitis associated with amnionitis shown in Figure 44. Gestational age 18 weeks. H. & E. X 170.

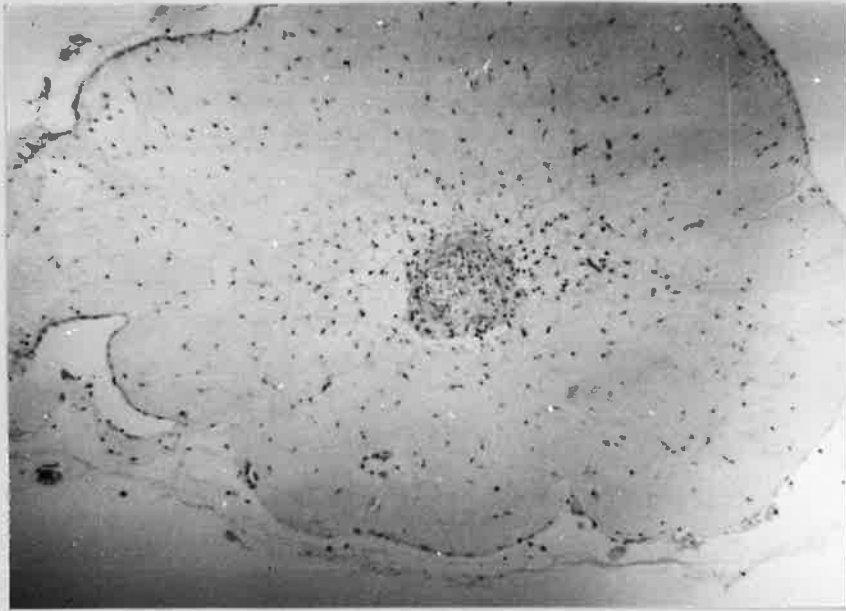


FIGURE 46: Sclerosis of a chorionic blood vessel. 12 weeks gestation. H. & E. X 100.

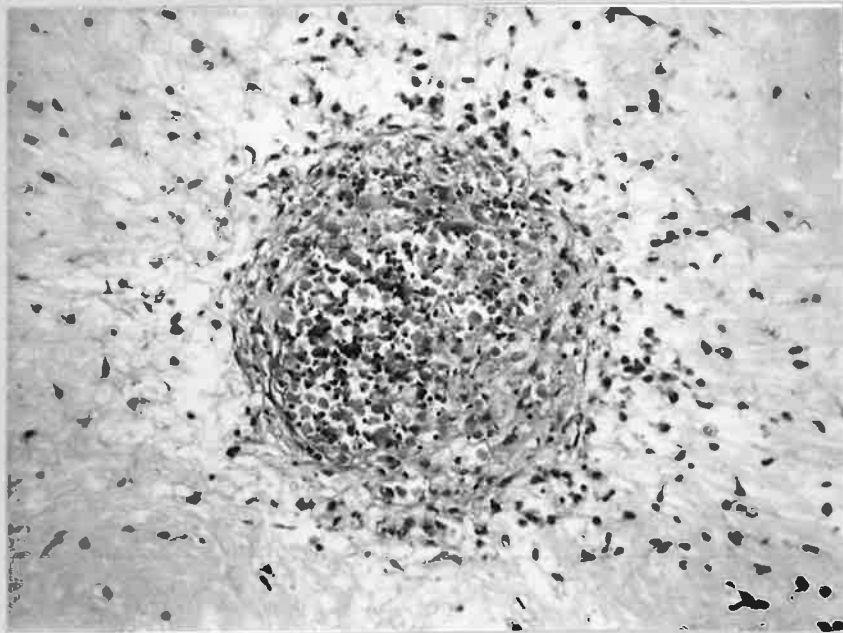


FIGURE 47: Narrow lumen of the sclerosed chorionic blood vessel in Figure 46. Note the inflammatory cells in the wall around lumen. 12 weeks gestation. H. & E. X 400.



FIGURE 48: Sclerosed chorionic blood vessel exhibiting amorphous necrosis of the inner part of the wall. 13 weeks gestation. H. & E. X 100.

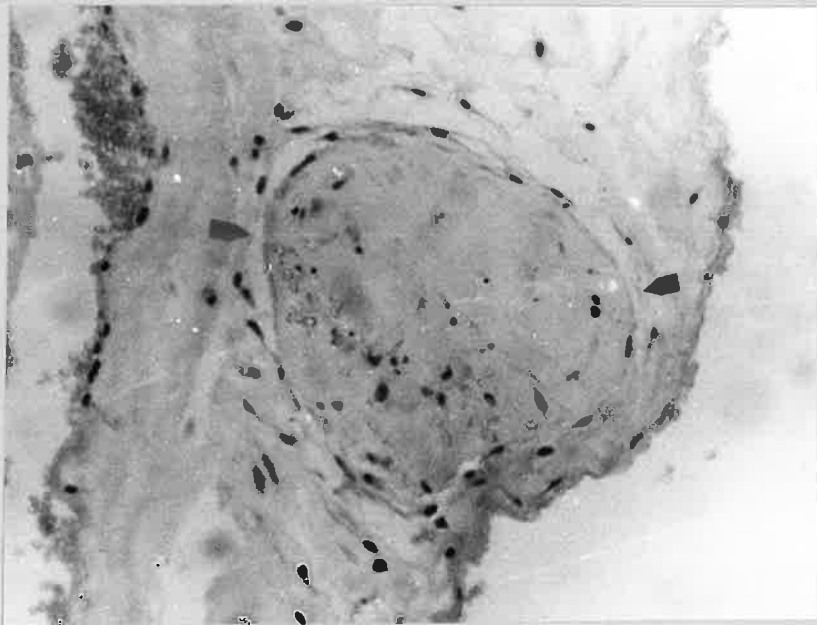


FIGURE 49: Thrombus in a chorionic blood vessel completely obstructing the lumen indicated by arrows. 13 weeks gestation. H. & E. X 225.

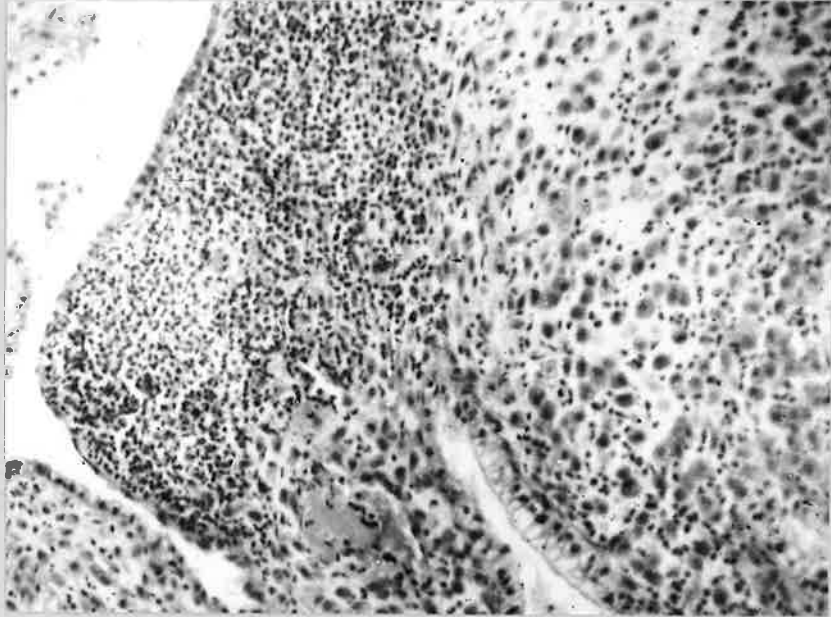


FIGURE 50: Inflammation with micro-abscess formation in decidua in a specimen of septic abortion. 12 weeks gestation. H. & E. X 170.



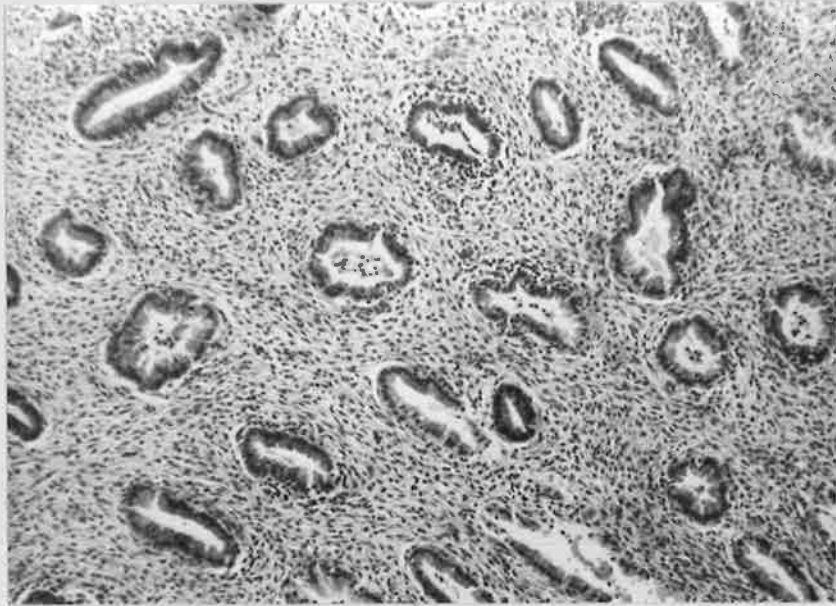


FIGURE 51: Atypical endometrium; mostly non-secretory and a few early secretory type of glands with a non-decidual stroma. 11 weeks gestation. H. & E. X 100.

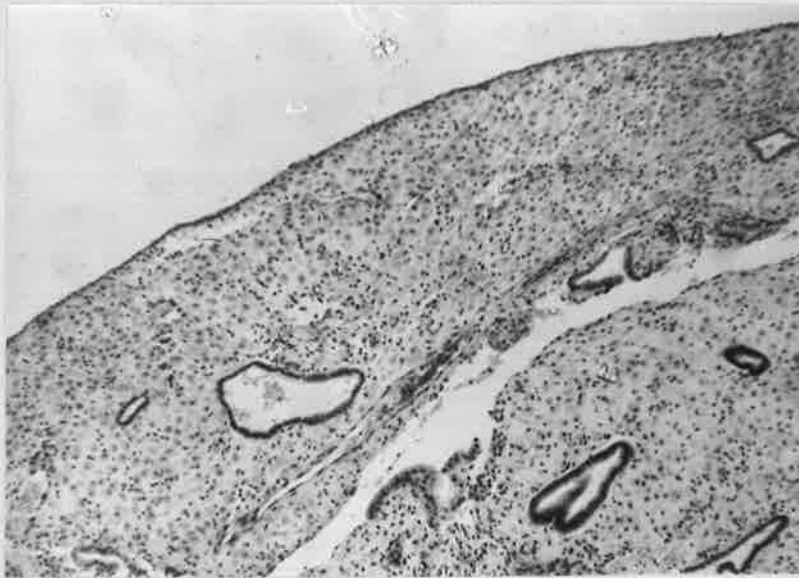


FIGURE 52: Atypical endometrium associated with a nodular foetus. Decidual stroma with inactive glands. 9 weeks gestation. H. & E. X 100.

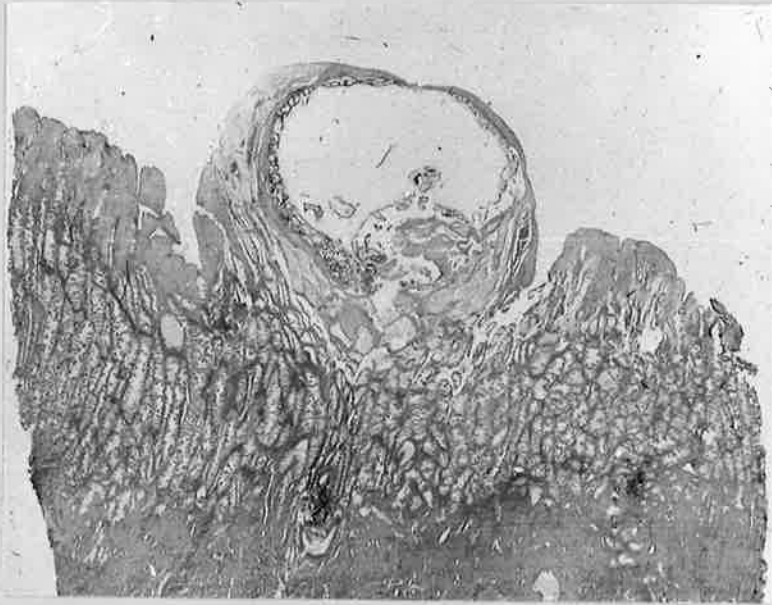


FIGURE 53: Unintentional abortion; hysterectomy for prolapse of the uterus. 3 weeks gestation. H. & E. X 6.

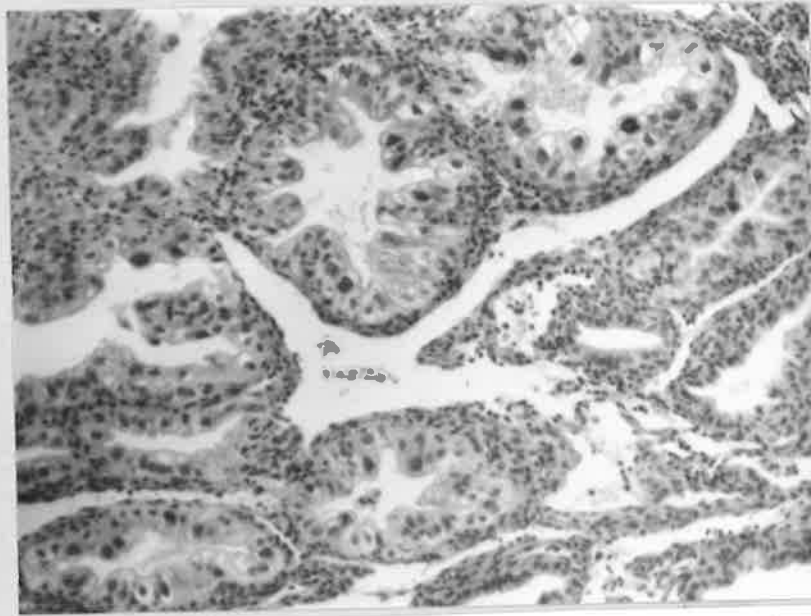


FIGURE 54: Arias-Stella reaction in a specimen of abortion with atypical endometrium. 10 weeks gestation. H. & E. X 100.

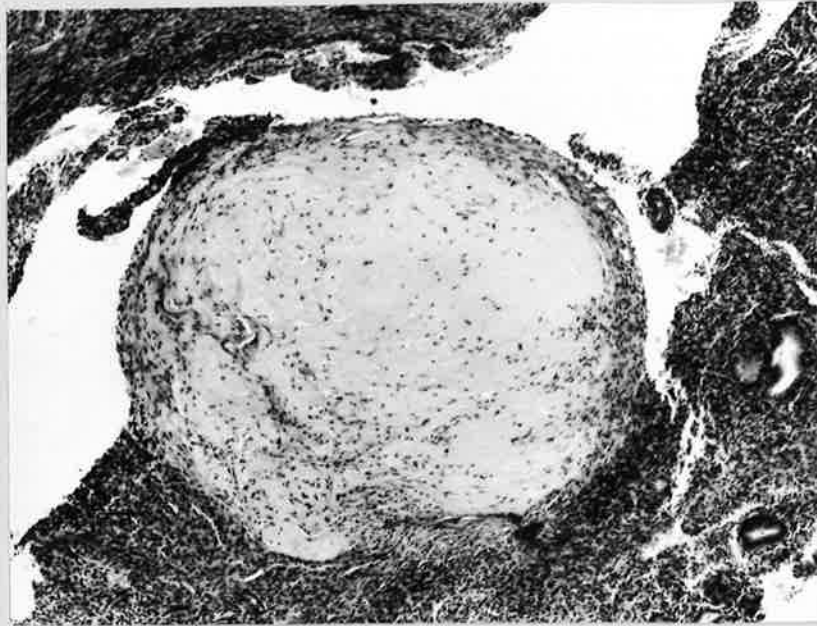


FIGURE 55: Endometrial fibroid in a specimen not representing abortion. 8 weeks amenorrhoea. H. & E. X 70.

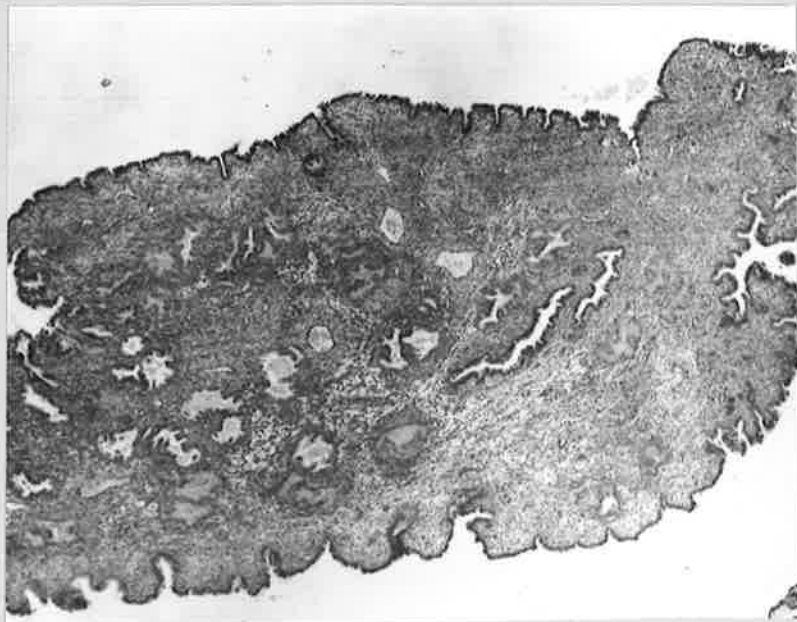


FIGURE 56: Endometrial polyp, not abortion. 9 weeks amenorrhoea. H. & E. X 140.

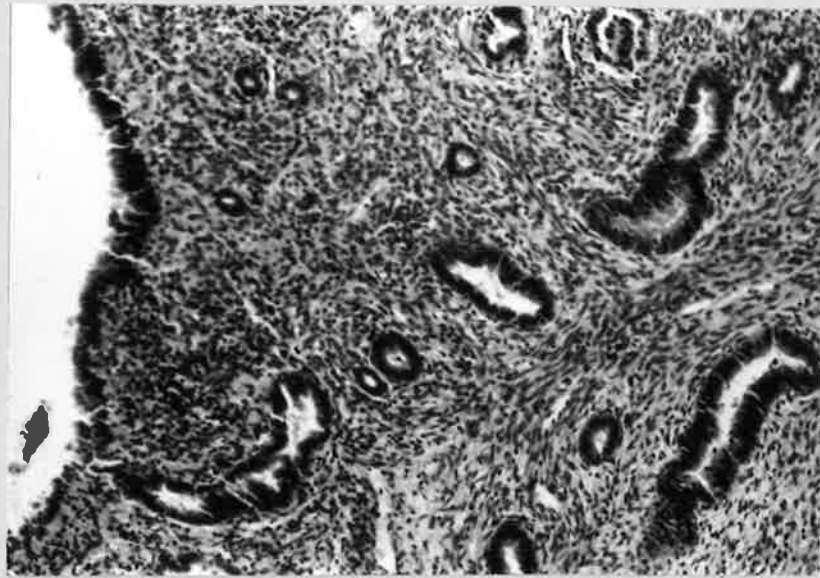


FIGURE 57: Endometrium not representing abortion; inactive glands and stroma in surface endometrium. 6 weeks amenorrhoea. H. & E. X 120.



FIGURE 58: Cystic hyperplasia of endometrial glands; not abortion. 8 weeks amenorrhoea. H. & E. X 140.

# **TABLES**

**TABLE 1: PATHOLOGICAL CHANGES IN FOETUS**

<b>SPECIMEN CLASSIFICATION</b>	<b>NO CHANGES (NORMAL)</b>	<b>ABSENT</b>	<b>NODULAR</b>	<b>STUNTED</b>	<b>MALFORMED</b>	<b>DEGENERATE</b>	<b>MACERATED</b>	<b>TOTAL</b>
<b>ECTOPIC PREGNANCY</b>	2	-	1	-	1	-	-	4
<b>UTERINE ABORTIONS:</b>								
<b>INDUCED</b>	12	-	-	-	-	1	2	15
<b>SEPTIC</b>	28	-	-	-	1	6	7	42
<b>SPONTANEOUS:</b>								
<b>DEFECTIVE OVA AND TROPHOBLAST</b>	-	35	24	20	-	-	2	81
<b>PLACENTAL PATHOLOGY</b>	22	-	-	-	-	-	5	27
<b>CORD PATHOLOGY</b>	-	-	-	-	-	4	6	10
<b>FOETAL PATHOLOGY</b>	-	-	-	-	1	-	-	1
<b>CHORIONIC VASCULAR DISEASE</b>	1	-	-	-	-	1	5	7
<b>ATYPICAL ENDOMETRIUM</b>	1	-	-	-	-	1	3	5
<b>UTERINE CONDITIONS</b>	3	-	-	-	-	-	-	3
<b>IDIOPATHIC</b>	19	-	-	-	-	4	36	59
<b>TOTAL</b>	<b>88</b>	<b>35</b>	<b>25</b>	<b>20</b>	<b>3</b>	<b>17</b>	<b>66</b>	<b>254</b>

**TABLE 1a: PATHOLOGICAL CHANGES IN FOETUS: INDUCED ABORTIONS**

<b>SPECIMEN CLASSIFICATION</b>	<b>NO CHANGES (NORMAL)</b>	<b>ABSENT</b>	<b>NODULAR</b>	<b>STUNTED</b>	<b>MALFORMED</b>	<b>DEGENERATE</b>	<b>MACERATED</b>	<b>TOTAL</b>
<b>INDUCED FOR MEDICAL INDICATIONS</b>	6	-	-	-	-	1	-	7
<b>UNINTENTIONAL</b>	1	-	-	-	-	-	-	1
<b>INDUCED WITHOUT MEDICAL INDICATIONS</b>	4	-	-	-	-	-	1	5
<b>INDUCED DUE TO ACCIDENT OR TRAUMA</b>	1	-	-	-	-	-	1	2
<b>TOTAL</b>	12					1	2	15



**TABLE 1b: PATHOLOGICAL CHANGES IN FOETUS: DEFECTIVE OVA AND TROPHOBLAST**

<b>PATHOLOGICAL DIAGNOSIS</b>	<b>NO CHANGES (NORMAL)</b>	<b>ABSENT</b>	<b>NODULAR</b>	<b>STUNTED</b>	<b>MALFORMED</b>	<b>DEGENERATE</b>	<b>MACERATED</b>	<b>TOTAL</b>
INTACT EMPTY SAC	-	35	-	-	-	-	-	35
NODULAR FOETUS	-	-	24	-	-	-	-	24
STUNTED FOETUS	-	-	-	20	-	-	-	20
AVASCULAR VILLI	-	-	-	-	-	-	-	-
HYDROPIC VILLI	-	-	-	-	-	-	2	2
HYDATIDIFORM DEGENERATION OF PLACENTA	-	-	-	-	-	-	-	-
HYDATIDIFORM MOLE	-	-	-	-	-	-	-	-
<b>TOTAL</b>		<b>35</b>	<b>24</b>	<b>20</b>			<b>2</b>	<b>81</b>

**TABLE 1c: PATHOLOGICAL CHANGES IN FOETUS: PLACENTAL PATHOLOGY**

<b>PATHOLOGICAL DIAGNOSIS</b>	<b>NO CHANGES (NORMAL)</b>	<b>ABSENT</b>	<b>NODULAR</b>	<b>STUNTED</b>	<b>MALFORMED</b>	<b>DEGENERATE</b>	<b>MACERATED</b>	<b>TOTAL</b>
<b>PLACENTAL INSUFFICIENCY</b>	<b>10</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>10</b>
<b>PLACENTAL INFARCTION</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>5</b>	<b>5</b>
<b>PLACENTAL HAEMORRHAGE</b>	<b>12</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>12</b>
<b>TOTAL</b>	<b>22</b>						<b>5</b>	<b>27</b>

**TABLE 2: PATHOLOGICAL CHANGES IN CORD**

<b>SPECIMEN CLASSIFICATION</b>	<b>NO CHANGES (NORMAL)</b>	<b>TORSION</b>	<b>COILING</b>	<b>STRICTURE</b>	<b>VASCULAR ANOMALY</b>	<b>FUNISITIS</b>	<b>DEGENERATE</b>	<b>OTHER</b>	<b>TOTAL</b>
<b>ECTOPIC PREGNANCY</b>	-	-	-	-	-	-	1	-	1
<b>UTERINE ABORTIONS:</b>									
<b>INDUCED</b>	5	-	-	1	-	-	-	-	6
<b>SEPTIC</b>	8	-	-	-	-	1	8	3	20
<b>SPONTANEOUS:</b>									
<b>DEFECTIVE OVA AND TROPHOBLAST</b>	-	-	-	1	1	-	13	3	18
<b>PLACENTAL PATHOLOGY</b>	8	1	-	1	-	1	3	1	15
<b>CORD PATHOLOGY</b>	-	2	6	2	-	-	-	-	10
<b>FOETAL PATHOLOGY</b>	-	-	-	-	-	-	-	-	-
<b>CHORIONIC VASCULAR DISEASE</b>	1	-	-	-	-	-	12	1	14
<b>ATYPICAL ENDOMETRIUM</b>	-	-	-	-	-	-	1	-	1
<b>UTERINE CONDITIONS</b>	-	-	-	-	-	-	-	1	1
<b>IDIOPATHIC</b>	8	-	-	-	-	-	14	3	25
<b>TOTAL</b>	<b>30</b>	<b>3</b>	<b>6</b>	<b>5</b>	<b>1</b>	<b>2</b>	<b>52</b>	<b>12</b>	<b>111</b>

TABLE 2a: PATHOLOGICAL CHANGES IN CORD: INDUCED ABORTIONS

SPECIMEN CLASSIFICATION	NO CHANGES (NORMAL)	TORSION	COILING	STRICTURE	VASCULAR ANOMALY	FUNISITIS	DEGENERATE	OTHER	TOTAL
INDUCED FOR MEDICAL INDICATIONS	4	-	-	1	-	-	-	-	5
UNINTENTIONAL	-	-	-	-	-	-	-	-	-
INDUCED WITHOUT MEDICAL INDICATIONS	1	-	-	-	-	-	-	-	1
INDUCED DUE TO ACCIDENT OR TRAUMA	-	-	-	-	-	-	-	-	-
<b>TOTAL</b>	<b>5</b>			<b>1</b>					<b>6</b>

TABLE 2b: PATHOLOGICAL CHANGES IN CORD: DEFECTIVE OVA AND TROPHOBLAST

PATHOLOGICAL DIAGNOSIS	NO CHANGES (NORMAL)	TORSION	COILING	STRICTURE	VASCULAR ANOMALY	FUNISITIS	DEGENERATE	OTHER	TOTAL
INTACT EMPTY SAC	-	-	-	-	-	-	-	-	-
NODULAR FOETUS	-	-	-	-	-	-	6	-	6
STUNTED FOETUS	-	-	-	1	1	-	5	3	10
AVASCULAR VILLI	-	-	-	-	-	-	1	-	1
HYDROPIC VILLI	-	-	-	-	-	-	1	-	1
HYDATIDIFORM DEGENERATION OF PLACENTA	-	-	-	-	-	-	-	-	-
HYDATIDIFORM MOLE	-	-	-	-	-	-	-	-	-
TOTAL				1	1		13	3	18

**TABLE 2c: PATHOLOGICAL CHANGES IN CORD: PLACENTAL PATHOLOGY**

<b>PATHOLOGICAL DIAGNOSIS</b>	<b>NO CHANGES (NORMAL)</b>	<b>TORSION</b>	<b>COILING</b>	<b>STRICTURE</b>	<b>VASCULAR ANOMALY</b>	<b>FUNISITIS</b>	<b>DEGENERATE</b>	<b>OTHER</b>	<b>TOTAL</b>
<b>PLACENTAL INSUFFICIENCY</b>	4	-	-	1	-	-	1	1	7
<b>PLACENTAL INFARCTION</b>	-	1	-	-	-	1	2	-	4
<b>PLACENTAL HAEMORRHAGE</b>	4	-	-	-	-	-	-	-	4
<b>TOTAL</b>	<b>8</b>	<b>1</b>		<b>1</b>		<b>1</b>	<b>3</b>	<b>1</b>	<b>15</b>

TABLE 3: PATHOLOGICAL CHANGES IN PLACENTA

SPECIMEN CLASSIFICATION	NO CHANGES (NORMAL)	AVASCULAR VILLI	HYDROPIC VILLI	HYDA.* DEGEN..	HYDA.** MOLE	INSUFF- ICIENCY	INFARC- TION	HAEMORR- HAGE	DEGENERATE VILLI	TOTAL
ECTOPIC PREGNANCY	-	2	4	-	-	-	1	3	8	18
<u>UTERINE ABORTIONS:</u>										
INDUCED	13	-	1	-	-	-	6	6	2	28
SEPTIC	-	-	-	-	-	1	20	30	20	71
<u>SPONTANEOUS:</u>										
DEFECTIVE OVA AND TROPHOBLAST	2	31	100	5	5	-	-	-	15	158
PLACENTAL PATHOLOGY	-	-	-	-	-	11	30	16	-	57
CORD PATHOLOGY	2	-	-	-	-	-	3	-	5	10
FOETAL PATHOLOGY	-	-	-	-	-	-	-	-	1	1
CHORIONIC VASCULAR DISEASE	-	-	-	-	-	-	2	-	21	23
ATYPICAL ENDOMETRIUM	1	-	-	-	-	-	-	-	15	16
UTERINE CONDITIONS	3	-	-	-	-	-	-	-	1	4
IDIOPATHIC	33	-	-	-	-	-	-	-	106	139
TOTAL	54	33	105	5	5	12	62	55	194	525

\* Hydatidiform degeneration of placenta.

\*\* Hydatidiform mole.

TABLE 3a: PATHOLOGICAL CHANGES IN PLACENTA: INDUCED ABORTIONS

SPECIMEN CLASSIFICATION	NO CHANGES (NORMAL)	AVASCULAR VILLI	HYDROPI- C VILLI	HYDA.* DEGEN.	HYDA.** MOLE	INSUFF- ICIENCY	INFARC- TION	HAEMORR- HAGE	DEGENERATE VILLI	TOTAL
INDUCED FOR MEDICAL INDICATIONS	9	-	1	-	-	-	-	-	-	10
UNINTENTIONAL	2	-	-	-	-	-	-	-	2	4
INDUCED WITHOUT MEDICAL INDICATIONS	2	-	-	-	-	-	4	2	-	8
INDUCED DUE TO ACCIDENT OR TRAUMA	-	-	-	-	-	-	2	4	-	6
TOTAL	13		1				6	6	2	28

\* Hydatidiform degeneration of placenta.

\*\* Hydatidiform mole.



TABLE 4: PATHOLOGICAL CHANGES IN DECIDUA

SPECIMEN CLASSIFICATION	NO CHANGES (NORMAL)	CHANGES PRESENT	TOTAL
ECTOPIC PREGNANCY	-	6	6
<u>UTERINE ABORTIONS:</u>			
INDUCED	5	16	21
SEPTIC	14	40	54
SPONTANEOUS:			
DEFECTIVE OVA AND TROPHOBLAST	2	147	149
PLACENTAL PATHOLOGY	-	48	48
CORD PATHOLOGY	-	8	8
FOETAL PATHOLOGY	-	1	1
CHORIONIC VASCULAR DISEASE	-	18	18
ATYPICAL ENDOMETRIUM	-	17	17
UTERINE CONDITIONS	1	2	3
IDIOPATHIC	5	112	117
TOTAL	27	415	442

TABLE 5: PATHOLOGICAL CHANGES IN ENDOMETRIUM

SPECIMEN CLASSIFICATION	NO CHANGES (NORMAL)	ATYPICAL	OTHER	TOTAL
ECTOPIC PREGNANCY	-	3	-	3
<u>UTERINE ABORTIONS:</u>				
INDUCED	5	-	-	5
SEPTIC	3	-	-	3
SPONTANEOUS:				
DEFECTIVE OVA AND TROPHOBLAST	9	31	3	43
PLACENTAL PATHOLOGY	3	8	-	11
CORD PATHOLOGY	1	-	-	1
FOETAL PATHOLOGY	-	-	-	-
CHORIONIC VASCULAR DISEASE	2	1	-	3
ATYPICAL ENDOMETRIUM	-	18	-	18
UTERINE CONDITIONS	-	-	-	-
IDIOPATHIC	12	-	-	12
TOTAL	35	61	3	99

TABLE 6: INDUCED ABORTIONS

MEDICAL INDICATIONS: ONE CASE EACH

RUBELLA

MULTIPLE CEREBRAL ANEURYSMS

PRE-ECLAMPTIC TOXAEMIA IN PREVIOUS PREGNANCIES;  
AND Rh AGGLUTININS

PREVIOUS PUERPERAL PSYCHOSIS

MANIC DEPRESSIVE PSYCHOSIS

CHROMOSOME ANEUPLOIDY

FAMILY PROBLEMS

CHRONIC LIVER DISEASE; PORTAL HYPERTENSION

PREVIOUS CEREBRAL TUMOUR OPERATION

POOR OBSTETRICAL HISTORY; MENTALLY RETARDED CHILDREN

TABLE 7: INDUCED ABORTIONS

UNINTENTIONAL: CIRCUMSTANCES; ONE CASE EACH

CURETTAGE DAY BEFORE ADMISSION TO HOSPITAL

HYSTERECTOMY FOR PROLAPSE

VAGINAL EXAMINATION IN ANTE-NATAL CLINIC

CHOLECYSTECTOMY

TABLE 8: INDUCED ABORTIONS

WITHOUT MEDICAL INDICATIONS: ALL SELF-INDUCED

<u>METHODS USED</u>	<u>NO. OF CASES</u>
DOUCHING	6
SPATULA	1
METHOD NOT STATED	1

TABLE 9: INDUCED ABORTIONS

DUE TO ACCIDENT OR TRAUMA: ONE CASE EACH

KICKED IN STOMACH

FELL AND HURT ABDOMEN

INTERCOURSE

FELL OFF BIKE

KNOCKED AGAINST BED

OTHER BABY JUMPING ON BELLY

TABLE 10: DEFECTIVE OVA AND TROPHOBLAST

PATHOLOGICAL DIAGNOSIS		NO. OF SPECIMENS
INTACT EMPTY SAC		35
AGENESIS	18	
ABSENT EMBRYO	17	
NODULAR FOETUS		24
STUNTED FOETUS		20
AVASCULAR VILLI		16
HYDROPIIC VILLI		54
HYDATIDIFORM DEGENERATION OF PLACENTA		5
HYDATIDIFORM MOLE		5
TOTAL		159

TABLE 11: UTERINE CONDITIONS

CLINICAL DIAGNOSIS: ONE CASE EACH

PLACENTA PRAEVIA

INCOMPETENCE OF CERVIX UTERI

RED DEGENERATION OF FIBROID

PARTIALLY SEPTATE UTERUS



TABLE 12: CHORIONIC VASCULAR DISEASE

<u>SPECIMEN CLASSIFICATION</u>	<u>NO. OF SPECIMENS</u>
ECTOPIC PREGNANCY	1
<u>UTERINE ABORTIONS:</u>	
INDUCED	-
SEPTIC	3
<u>SPONTANEOUS:</u>	
DEFECTIVE OVA AND TROPHOBLAST	21
PLACENTAL PATHOLOGY	1
CORD PATHOLOGY	1
FOETAL PATHOLOGY	-
CHORIONIC VASCULAR DISEASE	23
ATYPICAL ENDOMETRIUM	-
UTERINE CONDITIONS	-
IDIOPATHIC	-
TOTAL	50

TABLE 13: RECLASSIFICATION\* OF ABORTION SPECIMENS IN THE PRESENT SERIES  
USING THE CRITERIA OF MacMAHON ET AL. (1954)

I.	ABNORMAL OVUM:		78
	a.	EMPTY INTACT CHORION	18
	b.	EMPTY INTACT CHORION AND AMNION	17
	c.	NODULAR EMBRYO	23
	d.	CYLINDRICAL EMBRYO	-
	e.	STUNTED EMBRYO	18
	f.	LOCAL ANOMALIES	2
II.	MACERATED**, BUT OTHERWISE NORMAL, EMBRYO OR FOETUS		80
III.	EXTERNALLY NORMAL AND NON-MACERATED FOETUS		82
		TOTAL	<u>240</u>

\* IN ORDER TO CONFORM TO THE CRITERIA OF THE AUTHORS, THE FOLLOWING SPECIMENS HAVE BEEN EXCLUDED:

ECTOPIC PREGNANCY	18
MULTIPLE PREGNANCIES (TWINS)	10
HYDATIDIFORM MOLE	5
INADEQUATE SPECIMENS	160
WITHOUT FOETUS	262
	<u>455</u>
TOTAL	<u>455</u>

\*\* INCLUDING DEGENERATE.

TABLE 14: RECLASSIFICATION\* OF ABORTION SPECIMENS IN THE PRESENT SERIES  
USING THE CRITERIA OF FUJIKURA ET AL. (1966)

I.	INCOMPLETE SPECIMENS		160
II.	RUPTURED EMPTY SAC		262
	WITH CORD STUMP	23	
	WITHOUT CORD STUMP	239	
III.	INTACT EMPTY SAC		35
IV.	EMBRYO OR FOETUS PRESENT		215
	a.	NORMAL**	188
	b.	DEFORMED	24
	c.	ANOMALIES	3
	d.	UNABLE TO DETERMINE NORMALITY	-
		TOTAL	<u>672</u>

\* FOLLOWING SPECIMENS ARE EXCLUDED TO CONFORM TO THE CRITERIA OF THE AUTHORS:

ECTOPIC PREGNANCY	18
HYDATIDIFORM MOLE	5
TOTAL	<u>23</u>

\*\* INCLUDING STUNTED, DEGENERATE AND MACERATED FOETUSES.

TABLE 15: CLASSIFICATION OF ABORTION SPECIMENS

	NO. OF CASES	PERCENTAGE	NO. OF CASES	PERCENTAGE
ECTOPIC PREGNANCY			18	2.6
<u>UTERINE ABORTIONS:</u>				
INDUCED ABORTIONS			28	4.0
INADEQUATE SPECIMENS (USUALLY CURETTAGE)			160	23.0
SEPTIC ABORTIONS			72	10.4
SPONTANEOUS ABORTIONS:			417	60.0
DEFECTIVE OVA AND TROPHOBLAST	159	38.1		
PLACENTAL PATHOLOGY	57	13.7		
CORD PATHOLOGY	10	2.4		
FOETAL PATHOLOGY	1	0.2		
CHORIONIC VASCULAR DISEASE	23	5.5		
ATYPICAL ENDOMETRIUM	18	4.3		
UTERINE CONDITIONS	4	1.0		
IDIOPATHIC	145	34.8		
	417	100.0		
TOTAL ABORTIONS			695	100.0
SPECIMENS NOT ABORTIONS, 'PHANTOM'			37	
TOTAL SPECIMENS EXAMINED			732	

**TABLE 16: UTERINE ABORTIONS AND MATERNAL AGE**

SPECIMEN CLASSIFICATION	MATERNAL AGE IN YEARS						TOTAL
	17 AND UNDER	18-26	27-34	35-40	41 AND OVER	UNKNOWN	
INDUCED ABORTIONS	1	8	8	9	2	-	28
INADEQUATE SPECIMENS	3	75	47	22	11	2	160
SEPTIC ABORTIONS	3	30	18	15	6	-	72
SPONTANEOUS ABORTIONS	10	188	138	59	20	2	417
<b>TOTAL</b>	<b>17</b>	<b>301</b>	<b>211</b>	<b>105</b>	<b>39</b>	<b>4</b>	<b>677</b>

**TABLE 17: SPONTANEOUS ABORTIONS AND MATERNAL AGE**

PATHOLOGICAL DIAGNOSIS	MATERNAL AGE			GROUP TOTAL
	LESS THAN 27 YEARS		27 YEARS AND OVER	
	NO. OF CASES	PERCENTAGE OF GROUP TOTAL	NO. OF CASES	
DEFECTIVE OVA AND TROPHOBLAST	88	55.3	71	159
PLACENTAL PATHOLOGY	23	41.8	32	55*
CORD PATHOLOGY	4	40.0	6	10
FOETAL PATHOLOGY	-	-	1	1
CHORIONIC VASCULAR DISEASE	13	56.5	10	23
ATYPICAL ENDOMETRIUM	10	55.6	8	18
UTERINE CONDITIONS	1	25.0	3	4
IDIOPATHIC	59	40.7	86	145
<b>TOTAL</b>	<b>198</b>	<b>47.7</b>	<b>217</b>	<b>415</b>

\* Maternal age unknown in two cases.

**TABLE 18: ANALYSIS OF UTERINE ABORTIONS INCLUDING 'PHANTOM'**

	<b>NO. OF CASES</b>	<b>PERCENTAGE</b>
<b>ADEQUATE SPECIMENS:</b>	<b>517</b>	<b>72.4</b>
<b>CAUSE FOUND (72 PER CENT)</b>	<b>372</b>	<b>52.1</b>
<b>NO CAUSE FOUND (28 PER CENT)</b>	<b>145</b>	<b>20.3</b>
<b>INADEQUATE SPECIMENS</b>	<b>160</b>	<b>22.4</b>
<b>NOT ABORTIONS, 'PHANTOM'</b>	<b>37</b>	<b>5.2</b>
<b>TOTAL</b>	<b>714</b>	<b>100.0</b>

TABLE 19: ADEQUATE SPECIMENS, CAUSE FOUND

	<u>NO. OF CASES</u>	<u>PERCENTAGE</u>
<b>PATHOLOGICAL CAUSE:</b>	<b>268</b>	<b>72.0</b>
<b>IN THE FOETUS (29.8 PER CENT)</b>	<b>80</b>	
<b>IN THE CORD ( 3.8 PER CENT)</b>	<b>10</b>	
<b>IN THE PLACENTA (59.6 PER CENT)</b>	<b>160</b>	
<b>IN THE ENDOMETRIUM ( 6.8 PER CENT)</b>	<b>18</b>	
<b>CLINICAL CAUSE</b>	<b>4</b>	<b>1.1</b>
<b>INDUCED ABORTIONS</b>	<b>28</b>	<b>7.5</b>
<b>SEPTIC ABORTIONS</b>	<b>72</b>	<b>19.4</b>
<b>TOTAL</b>	<b>372</b>	<b>100.0</b>