

Gynecologic Pathology Grossing Guidelines

PLACENTA

COMMENT: PLEASE TAKE GROSS PHOTOS OF INTACT PLACENTAS WITH SIGNIFICANT GROSS FINDINGS; IF UNSURE, TAKE A PHOTO!

TWIN

1. Indicate whether the placentas are separate or fused.
 - a. If separate, examine each placenta as described for singletons.
 - b. Dictate as **non-fused diamniotic dichorionic twin placenta**.
 - c. Weigh and measure, dictate **combined weight as well as individual weights**.
2. If fused, note the presence of a dividing membrane and its appearance. Indicate if no dividing membrane is present (i.e. monoamniotic)
3. If two amniotic cavities are found, indicate if they are of equal or unequal size. Estimate the relative proportion of the fused chorionic plate supplied by the vascular distribution of each twin.
4. For monochorionic twins, describe any surface vessel anastomoses between twins [*artery-artery, vein-vein, artery-vein*], or segments perfused by an artery from one twin and venous return to the other (deep anastomoses). **If there has been a prior vascular ablation procedure for twin-twin transfusion syndrome, describe, if possible, the number and location of ablation sites. If Dr. Goldstein is available, please arrange to review these specimens with him prior to submitting sections.**
5. Make a roll of the dividing membrane and free membranes from each placenta.
6. Examine each half of the placenta(s) as described under "single placenta".
7. Submit sections as follows:
 - a) Two cross sections of both umbilical cords, as above.
 - b) Sections of both free membrane rolls to include origin of membranes, if possible.
 - c) Cross section of the roll of the dividing membrane and "T-zone" of the septal insertion.
 - d) Placental tissue as described under single placenta.

For triplets and greater multiples, follow the same guidelines, just adjust your evaluation for the additional babies. When submitting dividing membrane and "T-zone" sections, designate the relationships: ie. A-b, A-C, B-C.

Gross Template:

MMODAL COMMAND: "INSERT TWIN PLACENTA" – FOR SEPARATE DISC

It consists of a diamniotic, dichorionic twin placenta. [*Describe orientation present, one clamp twin A, two clamps twin B or indicate if arbitrarily designating the placenta****].

Placenta A weighs [*weight****] grams [*fresh/fixed****] (devoid of cord and membranes), and measures [*measure in three dimensions****] cm. The [*eccentrically, centrally, peripherally, velamentously****] located tan-white [*trivascular/bivascular****] umbilical cord measures [*****] cm in length x [*****] cm in average diameter, and inserts [*****] cm from the margin. There [*are/are no****] cord knots, thromboses, or focal

Gynecologic Pathology Grossing Guidelines

lesions present. There are [#***] [right/left***] coils per 10 cm. The fetal surface is [describe color and texture - pink-purple and smooth***]. There is [scant, moderate, extensive-quantify/give percentage of disc if extensive***] subchorionic fibrin present. There [is/is no ***] squamous metaplasia, amnion nodosum, or gross meconium. The surface vessels are [normal/congested/focally thrombosed ***]. The [pink-tan, thin and translucent, green, thickened, opaque***] membranes insert [peripherally, circummarginate, circumvallate, over #% of the disc circumference***], and the nearest point of rupture is [is ***cm from the margin OR is indeterminate***]. There [is/is no***] accessory lobe present. The cotyledons are [all present and intact or disrupted or incomplete***]. There [is/is no***] retroplacental hemorrhage present. Sectioning reveals [describe color and texture of placental cut surfaces***]. [If lesion present, describe size, color, texture and % of placental disc involved, OR describe any calcification; if nothing present, state No discrete lesions, masses or nodules identified***]

Placenta B weighs [weight***] grams [fresh/fixed***] (devoid of cord and membranes), and measures [measure in three dimensions***] cm. The [eccentrically, centrally, peripherally, velamentously***] located tan-white [trivascular/bivascular***] umbilical cord measures [***] cm in length x [***] cm in average diameter, and inserts [***] cm from the margin. There [are/are no***] cord knots, thromboses, or focal lesions present. There are [#***] [right/left***] coils per 10 cm. The fetal surface is [describe color and texture - pink-purple and smooth***]. There is [scant, moderate, extensive-quantify/give percentage of disc if extensive***] subchorionic fibrin present. There [is/is no ***] squamous metaplasia, amnion nodosum, or gross meconium. The surface vessels are [normal/congested/focally thrombosed ***]. The [pink-tan, thin and translucent, green, thickened, opaque***] membranes insert [peripherally, circummarginate, circumvallate, over #% of the disc circumference***], and the nearest point of rupture is [is ***cm from the margin OR is indeterminate***]. There [is/is no***] accessory lobe present. The cotyledons are [all present and intact or disrupted or incomplete***]. There [is/is no***] retroplacental hemorrhage present. Sectioning reveals [describe color and texture of placental cut surfaces***]. [If lesion present, describe size, color, texture and % of placental disc involved, OR describe any calcification; if nothing present, state No discrete lesions, masses or nodules identified***]

Representative sections are submitted.

CASSETTE SUMMARY:

A1 Twin A, two sections of cord and membrane
A2 Twin A, central placenta near cord insertion
A3-A4 Twin A, central 2/3 placenta
A5 Dividing membrane and parenchyma
A6 Twin B, two sections of cord and membrane
A7 Twin B, central placenta near cord insertion
A8-A9 Twin B, central 2/3 of placenta
[add additional sections for infarcts/areas of interest***]

MMODAL COMMAND: "INSERT TWIN PLACENTA FUSED" – FOR FUSED DISC

It consists of a [diamniotic, mono chorionic; monoamniotic, mono chorionic***] fused disk twin placenta. [Describe orientation present, one clamp twin A, two clamps twin B***]. The placental disk weighs [***] grams [fresh/fixed***] (devoid of cord and membranes) and measures [measure in three dimensions***] cm. The dividing membranes are [pink-tan, thin and translucent, green, thickened, opaque***]. There [are/are no***] anastomosing vessels [(if present, describe what vessels are anastomosed)***].

Umbilical cord A is white-tan and [trivascular/bivascular***], and measures [***] cm in length x [***] cm in diameter. The cord has an [eccentric, central, peripheral, velamentous***] insertion which is located [***] cm from the margin, and has [number***] [right/left***] coils per 10 cm. There [are/are no***] cord knots, thromboses, or focal lesions present. The vascular distribution covers approximately [***]% of the total disk volume. The fetal surface is [pink-purple and smooth***]. There is [scant, moderate, extensive-quantify if extensive***] subchorionic fibrin present. There [is/is no***] squamous metaplasia, amnion nodosum, or gross meconium. The surface vessels are [normal, thrombosed***]. The [pink-tan, thin and translucent, green, thickened, opaque***] membranes insert [peripherally, circummarginate, circumvallate

Gynecologic Pathology Grossing Guidelines

over #% of the disk circumference***]. The nearest point of rupture measures [***] cm from the margin. There [is/is no***] accessory lobe present. There [is/is no***] retroplacental hemorrhage present. Sectioning the chorionic plate of twin A reveals [a red-brown cut surface, describe lesions-intervillous hematomas and infarcts (color, consistency, location)-provide % of placental disc involved***]. The remaining parenchyma is [red-purple or pink-red***] with [normal, increased***] calcifications. No additional lesions or masses are grossly identified.

Umbilical cord B is white-tan and [trivascular/bivascular***], and measures [***] cm in length x [***] cm in diameter. The cord has an [eccentric, central, peripheral, velamentous***] insertion which is located [***] cm from the margin, and has [number***] [right/left***] coils per 10 cm. There [are/are no***] cord knots, thromboses, or focal lesions present. The vascular distribution covers approximately [***]% of the total disk volume. The fetal surface is [pink-purple and smooth***]. There is [scant, moderate, extensive-quantify if extensive***] subchorionic fibrin present. There [is/is no***] squamous metaplasia, amnion nodosum, or gross meconium. The surface vessels are [normal, thrombosed***]. The [pink-tan, thin and translucent, green, thickened, opaque***] membranes insert [peripherally, circummarginate, circumvallate over #% of the disk circumference***]. The nearest point of rupture measures [***] cm from the margin. There [is/is no***] accessory lobe present. There [is/is no***] retroplacental hemorrhage present. Sectioning the chorionic plate of twin B reveals [a red-brown cut surface, describe lesions-intervillous hematomas and infarcts (color, consistency, location)-provide % of placental disc involved***]. The remaining parenchyma is [red-purple or pink-red***] with [normal, increased***] calcifications. No additional lesions or masses are grossly identified. Representative sections are submitted.

CASSETTE SUMMARY:

A1 Twin A, two sections of cord and membrane
A2 Twin A, base of umbilical cord
A3-A4 Twin A, central placenta
A5 Dividing membrane and parenchyma
A6 Twin B, two sections of cord and membrane
A7 Twin B, base of umbilical cord
A8-A9 Twin B, central placenta
[add additional sections for infarcts/areas of interest***]

SAMPLE Cassette Submission:


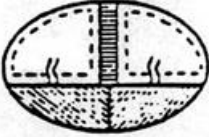
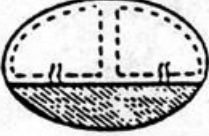

A1 Placenta A - umbilical cord (fetal end) and membranes
A2 Placenta A - umbilical cord (maternal end) and central placenta
A3, A4 Placenta A - central placenta (bisected)
A5 Placenta B - umbilical cord (fetal end) and membranes
A6 Placenta B - umbilical cord (maternal end) and central placenta
A7, A8 Placenta B - unremarkable central placenta (bisected)
A9 Placenta B - peripheral placenta with possible retroplacental hemorrhage
A10 Dividing membranes

PLACENTA—TWIN cont'd

Dividing membrane in twin placentas

Features	Dichorionic-diamniotic (fused)	Monochorionic-diamniotic
Appearance	Thick and opaque	Thin and transparent
Separation of membranes by stripping	Difficult	Easy
Point of attachment to fetal surface	Ridge or tearing of chorion	Smooth and continuous, without ridge
Vascular anastomoses	Very rare	Numerous

Types of twin placentas

Type	Incidence	Gross	Twin type
Dichorionic-diamniotic (separate)	35%		Monozygotic or dizygotic
Dichorionic-diamniotic (fused)	34%		Monozygotic or dizygotic
Monochorionic-diamniotic	30%		Monozygotic
Monochorionic-monoamniotic	1%		Monozygotic

Gynecologic Pathology Grossing Guidelines

Week post conception	Week post last menstruation	Crown-rump (mm)	Fetal weight (gm)	Placental diameter (mm)	Placental weight (gm)	Placental thickness (mm)	Umbilical cord length (mm)
	1						
	2						
1	3						
2	4						
3	5	2.5					
4	6	5					5
5	7	9					
6	8	14	1.1		6		
7	9	20	2				
8	10	26	5		14		
9	11	33	11				
10	12	40	17		26		
11	13	48	23	50 - 75			160 - 180
12	14	56	30		42	10	
13	15	65	40				
14	16	75	60		65	12	
15	17	88	90	75 - 100			220 - 300
16	18	99	130		90		
17	19	112	180				
18	20	125	250		115	15	
19	21	137	320	100 - 125			330 - 350
20	22	150	400		150		
21	23	163	480				
22	24	176	560		185	18	
23	25	188	650	125 - 150			370 - 400
24	26	200	750		210		
25	27	213	870				
26	28	226	1000		250	20	
27	29	236	1130	150 - 170			420 - 450
28	30	250	1260		285		
29	31	263	1400				
30	32	276	1550		315	22	
31	33	289	1700	170 - 200			460 - 490
32	34	302	1900		355		
33	35	315	2100				
34	36	328	2300		390	24	
35	37	341	2500	200 - 220			500 - 520
36	38	354	2750		425		
37	39	367	3000				
38	40	380	3400		470	25	

Data taken from table in "Pathology of the Human Placenta", 2nd ed., Benirschke, Kurt, 1990, pg 343. [Data compiled from Boyd & Hamilton (1970), O'Rahilly (1973), Johannigmann *et al.* (1972), and Winchel (1893)]