Outcomes of Pediatric Macular Hole
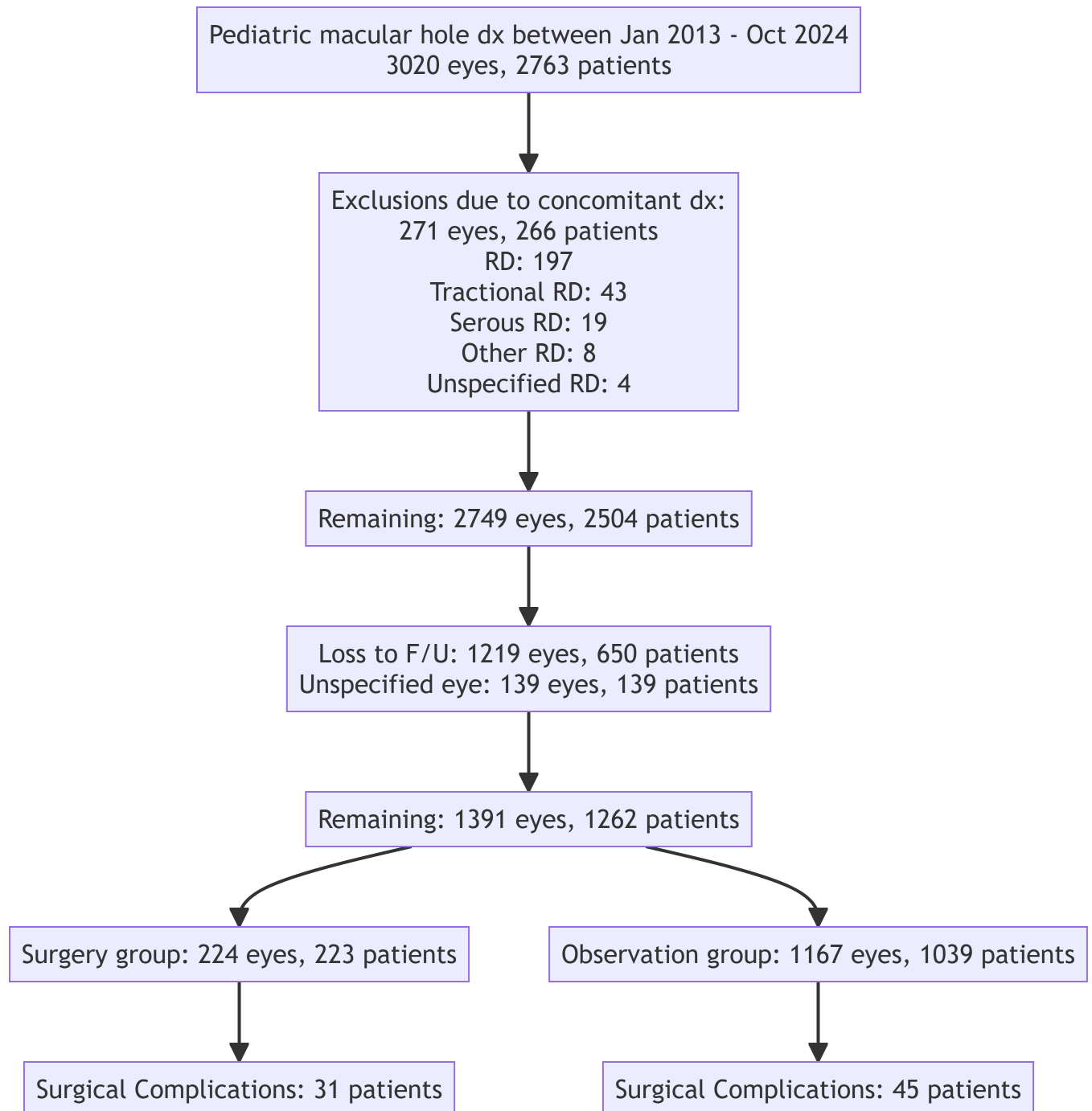
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Data extraction

Pediatric macular hole dx between Jan 2013 - Oct 2024
3020 eyes, 2763 patients

Exclusions due to concomitant dx:
271 eyes, 266 patients
RD: 197
Tractional RD: 43
Serous RD: 19
Other RD: 8
Unspecified RD: 4

Remaining: 2749 eyes, 2504 patients

Loss to F/U: 1219 eyes, 650 patients
Unspecified eye: 139 eyes, 139 patients

Remaining: 1391 eyes, 1262 patients

Surgery group: 224 eyes, 223 patients

Observation group: 1167 eyes, 1039 patients

Surgical Complications: 31 patients

Surgical Complications: 45 patients

Summary

Table 1: Demographic data of surgical and non-surgical patients

Variable	Overall N = 1,262[1]	Observation N = 1,039[1]	Surgery N = 223[1]	p-value[2]
Sex				**0.031**
Female	449 (36%)	386 (37%)	63 (28%)	
Male	786 (62%)	630 (61%)	156 (70%)	
Unknown	27 (2.1%)	23 (2.2%)	4 (1.8%)	
Both eyes included	129 (10%)	123 (12%)	6 (2.7%)	**<0.001**
Age at first macular hole diagnosis	14.00 (11.00, 16.00)	14.00 (11.00, 16.00)	13.00 (11.00, 16.00)	0.7
Age at macular hole diagnosis for fellow eye	13.00 (9.00, 16.00)	13.00 (9.00, 16.00)	12.00 (10.00, 15.00)	0.8
Unknown	1,133	916	217	
Race				**0.011**
Asian	38 (3.0%)	36 (3.5%)	2 (0.9%)	
Black Or African American	169 (13%)	133 (13%)	36 (16%)	
Other	181 (14%)	146 (14%)	35 (16%)	
Unknown	329 (26%)	287 (28%)	42 (19%)	
White	545 (43%)	437 (42%)	108 (48%)	
Ethnicity				**0.002**
Hispanic Or Latino	172 (14%)	129 (12%)	43 (19%)	
Not Hispanic Or Latino	631 (50%)	513 (49%)	118 (53%)	
Unknown	459 (36%)	397 (38%)	62 (28%)	
Region				**>0.9**
Midwest	237 (19%)	196 (19%)	41 (18%)	

Variable	Overall N = 1,262[1]	Observation N = 1,039[1]	Surgery N = 223[1]	p-value[2]
Northeast	214 (17%)	178 (17%)	36 (16%)	
South	481 (38%)	393 (38%)	88 (39%)	
Unknown	143 (11%)	119 (11%)	24 (11%)	
West	187 (15%)	153 (15%)	34 (15%)	
Follow up (months)	33.49 (14.49, 60.22)	35.55 (15.57, 62.48)	23.00 (11.50, 44.05)	**<0.001**

[1]n (%); Median (Q1, Q3)

[2]Fisher's exact test; Pearson's Chi-squared test; Wilcoxon rank sum test

Observation group

Table 2: Surgical complication for observation group

Variable	No surgical complication N = 988[1]	Complex RD N = 23[1]	Cryotherapy N = 1[1]	Photocoagulation N = 16[1]	Scleral buckling N = 5[1]	Vitrectomy N = 11[1]	p-value[2]
Sex							>0.9
Female	367 (37%)	10 (43%)	0 (0%)	7 (44%)	2 (40%)	2 (18%)	
Male	598 (61%)	13 (57%)	1 (100%)	9 (56%)	3 (60%)	9 (82%)	
Unknown	23 (2.3%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	
Both eyes included	117 (12%)	0 (0%)	0 (0%)	5 (31%)	1 (20%)	0 (0%)	**0.044**
Bilateral surgery	0 (NA%)	0 (0%)	0 (0%)	3 (19%)	1 (20%)	0 (0%)	0.10
Unknown	988	0	0	0	0	0	
Age at first macular hole diagnosis	14.00 (11.00, 16.00)	13.00 (8.00, 15.00)	13.00 (13.00, 13.00)	12.00 (10.00, 16.00)	13.00 (13.00, 14.00)	13.00 (11.00, 17.00)	0.9
Age at macular hole diagnosis for fellow eye	13.00 (9.00, 15.00)	NA (NA, NA)	NA (NA, NA)	16.00 (13.00, 16.00)	17.00 (17.00, 17.00)	NA (NA, NA)	0.11
Unknown	871	23	1	11	4	11	
Time to complication (days)	NA (NA, NA)	100.00 (29.00, 1,028.00)	343.00 (343.00, 343.00)	112.00 (10.00, 1,267.00)	681.00 (5.00, 1,206.00)	47.00 (22.00, 1,381.00)	>0.9
Unknown	988	0	0	2	0	0	
Time to complication, fellow eye(days)	NA (NA, NA)	NA (NA, NA)	NA (NA, NA)	1,161.00 (702.00, 1,662.00)	303.00 (303.00, 303.00)	NA (NA, NA)	0.14
Unknown	988	23	1	11	4	11	
Race							
Asian	34 (3.4%)	0 (0%)	0 (0%)	2 (13%)	0 (0%)	0 (0%)	

Variable	No surgical complication N = 988[1]	Complex RD N = 23[1]	Cryotherapy N = 1[1]	Photocoagulation N = 16[1]	Scleral buckling N = 5[1]	Vitrectomy N = 11[1]	p-value[2]
Black Or African American	126 (13%)	4 (17%)	0 (0%)	1 (6.3%)	0 (0%)	2 (18%)	
Other	140 (14%)	6 (26%)	0 (0%)	2 (13%)	0 (0%)	0 (0%)	
Unknown	267 (27%)	6 (26%)	1 (100%)	5 (31%)	2 (40%)	7 (64%)	
White	421 (43%)	7 (30%)	0 (0%)	6 (38%)	3 (60%)	2 (18%)	
Ethnicity							0.13
Hispanic Or Latino	121 (12%)	4 (17%)	0 (0%)	3 (19%)	2 (40%)	0 (0%)	
Not Hispanic Or Latino	491 (50%)	11 (48%)	0 (0%)	9 (56%)	0 (0%)	4 (36%)	
Unknown	376 (38%)	8 (35%)	1 (100%)	4 (25%)	3 (60%)	7 (64%)	
Region							
Midwest	189 (19%)	4 (17%)	0 (0%)	3 (19%)	1 (20%)	0 (0%)	
Northeast	169 (17%)	6 (26%)	0 (0%)	3 (19%)	1 (20%)	1 (9.1%)	
South	371 (38%)	9 (39%)	1 (100%)	6 (38%)	2 (40%)	6 (55%)	
Unknown	113 (11%)	1 (4.3%)	0 (0%)	2 (13%)	0 (0%)	3 (27%)	
West	146 (15%)	3 (13%)	0 (0%)	2 (13%)	1 (20%)	1 (9.1%)	
Follow up (months)	34.76 (15.11, 61.63)	50.79 (26.64, 86.66)	129.73 (129.73, 129.73)	44.30 (29.91, 76.08)	58.05 (16.95, 70.83)	47.83 (28.58, 110.41)	**0.029**

[1]n (%); Median (Q1, Q3)

[2]Fisher's exact test; Kruskal-Wallis rank sum test

Surgical group

Table 3: Surgical complication for Surgical group

Variable	No surgical complication N = 192[1]	Cataract Surgery N = 10[1]	Macular Hole Surgery N = 16[1]	Retinal Detachment Surgery N = 5[1]	p-value[2]
Sex					0.8
Female	52 (27%)	3 (30%)	7 (44%)	1 (20%)	
Male	136 (71%)	7 (70%)	9 (56%)	4 (80%)	
Unknown	4 (2.1%)	0 (0%)	0 (0%)	0 (0%)	
Both eyes included	1 (0.5%)	0 (0%)	0 (0%)	0 (0%)	>0.9
Age at first macular hole diagnosis	14.00 (11.00, 16.00)	16.00 (15.00, 17.00)	10.50 (7.50, 13.00)	12.00 (11.00, 13.00)	**<0.001**
Age at macular hole diagnosis for fellow eye	15.00 (15.00, 15.00)	NA (NA, NA)	NA (NA, NA)	NA (NA, NA)	
Unknown	191	10	16	5	
Time to complication (days)	NA (NA, NA)	532.00 (287.00, 725.00)	73.50 (38.50, 149.50)	48.00 (28.00, 98.00)	**<0.001**
Unknown	192	0	0	0	
Race					0.4
Asian	1 (0.5%)	0 (0%)	0 (0%)	1 (20%)	
Black Or African American	30 (16%)	2 (20%)	4 (25%)	0 (0%)	
Other	32 (17%)	1 (10%)	2 (13%)	0 (0%)	
Unknown	38 (20%)	2 (20%)	1 (6.3%)	1 (20%)	
White	91 (47%)	5 (50%)	9 (56%)	3 (60%)	
Ethnicity					0.7

Variable	No surgical complication N = 192[1]	Cataract Surgery N = 10[1]	Macular Hole Surgery N = 16[1]	Retinal Detachment Surgery N = 5[1]	p-value[2]
Hispanic Or Latino	36 (19%)	2 (20%)	3 (19%)	2 (40%)	
Not Hispanic Or Latino	100 (52%)	5 (50%)	11 (69%)	2 (40%)	
Unknown	56 (29%)	3 (30%)	2 (13%)	1 (20%)	
Region					0.7
Midwest	33 (17%)	2 (20%)	4 (25%)	2 (40%)	
Northeast	32 (17%)	0 (0%)	2 (13%)	2 (40%)	
South	77 (40%)	5 (50%)	5 (31%)	1 (20%)	
Unknown	22 (11%)	1 (10%)	1 (6.3%)	0 (0%)	
West	28 (15%)	2 (20%)	4 (25%)	0 (0%)	
Follow up (months)	22.13 (11.50, 42.25)	27.45 (19.05, 49.74)	33.46 (9.69, 68.59)	18.46 (13.67, 28.65)	0.6

Note: No one from the surgical group had a Endophthalmitis diagnosis.
 One patient had bilateral macular hole diagnosis, both eyes had surgery (133 days apart) but no complication

[1]n (%); Median (Q1, Q3)

[2]Fisher's exact test; Kruskal-Wallis rank sum test