Pseudoretinoblastoma: Distribution based on gender, age, and laterality

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Abstract
Purpose: To investigate the distribution of pseudoretinoblastoma (PSRB) cases based on gender, age, and laterality
Materials and Methods: The clinical records of 607 patients (851 eyes) who were referred for diagnosis of retinoblastoma or simulating conditions between October 1998 and May 2021 were retrospectively evaluated. Patients were stratified by age as follows: ≤1 year, >1–3 years, >3–5 years, and >5 years.
Results: Of 190/607 PSRB patients, 129 (67.9%) were males and 61 (32.1%) females (p = 0.001). The 3 most common diagnoses in males were Coats disease (20.2%), persistent fetal vasculature (PFV, 14.0%), and chorioretinal coloboma (6.2%). In females, the 3 most common diagnoses included PFV (21.3%), retinal dysplasia, congenital glaucoma, and combined hamartoma (each 6.6%). PFV was the most common diagnosis in ≤1 year old patient group (26.6%). Coats disease and PFV were the most common diagnoses in >1–3 years old patient group (each 16.7%). Coats disease was the most common diagnosis in >3–5 years old (30.8%) and >5 years old patient groups (13.1%). PSRBs were unilateral in 121/190 (63.7%) patients. Coats disease usually presented unilaterally (p < 0.001) while PFV, optic nerve head drusen, and retinopathy of prematurity as bilateral diseases (p = 0.019, p = 0.001, and p = 0.001 respectively).
Discussion: PSRB diagnoses show differences depending on gender, age, and laterality. In our study, the most common PSRB lesions were Coats disease in males and PFV in females. PFV was the most frequent diagnosis in ≤3 years and Coats disease in >3 years of age groups. Coats disease and PFV were the most common unilateral and bilateral PSRB diagnoses respectively.

Keywords
Coats disease, congenital cataract, familial exudative vitreoretinopathy, optic nerve head drusen, persistent fetal vasculature, pseudoretinoblastoma, retinal astrocytic hamartoma, retinal detachment, retinoblastoma, retinopathy of prematurity

Introduction
The differential diagnosis of retinoblastoma (RB) has always been a challenge for ophthalmologists. Conditions simulating RB were first named as pseudoglioma by Treacher Collins in 1892. Sanders classified pseudoglioma cases into 7 types in 1950. Lesions that cause diagnostic confusion with RB have recently been lumped together under the rubric “pseudoretinoblastoma (PSRB)”.

There are several series in the literature reporting different rates of lesions mimicking RB. The most common entities confused with RB included Coats disease, persistent fetal vasculature (PFV), retinopathy of prematurity (ROP), congenital cataract, congenital glaucoma, ocular toxocariasis, vitreous hemorrhage (VH), familial exudative vitreoretinopathy (FEVR), retinal dysplasia, coloboma, optic nerve head drusen (ONHD), retinal astrocytic hamartoma (RAH), and postinfectious scars.

To our knowledge, there have been few studies looking at the frequency of PSRB cases by age. However, there
have been no previous studies reporting the distribution of PSRB cases by gender and laterality. The current study reviews our >20 years experience with RB and mimicking conditions and reports the distribution of PSRBs based on gender, age, and laterality.

Materials and methods
The clinical records of 607 patients (851 eyes) who were referred with the diagnosis of RB or simulating conditions between October 1998 and May 2021 were retrospectively evaluated. The study was conducted in accordance with the Declaration of Helsinki and all families signed the informed consent form. Approval from the Ethics Committee of Ankara University Faculty of Medicine was obtained (Approval number: İ5-379-21). All patients except for a few older children underwent eye examination under general anesthesia. Older ones had office examinations. All examinations were performed by the same ocular oncology specialist (AKG). Anterior segment examination and photography, intraocular pressure measurement, determination of corneal parameters, funduscopy and fundus drawings, RetCam wide-field fundus photography, fluorescein angiography, B-mode ultrasonography, ultrasound biomicroscopy, optical coherence tomography, computed tomography, and magnetic resonance imaging were done as necessary.

Presenting features including white colour in the centre of the eye (leukocoria), strabismus, decreased vision (defined as absence of fix and follow vision or ≤20/200 Snellen visual acuity in older children), and involuntary eye movements were recorded. Referring diagnoses by the outside ophthalmologists as RB vs PSRB were noted. Patients were grouped by age as follows: ≤1 year old, >1–3 years old, >3–5 years old, and >5 years old. The frequency of each PSRB lesion was analysed according to gender, age, and laterality. The study period was divided into two equal periods for analysis of the distribution of PSRB cases.

Statistical analysis
SPSS for Windows 11.5 (SPSS Inc, Chicago, IL, USA) was used for all statistical analyses. Kolmogorov-Smirnov test was used to assess the normality assumption for age. Comparison of age between RB and PSRB patients was done with Mann-Whitney U test. Pearson’s chi-square/Fisher’s exact test was performed for associations between categorical variables including symptoms, age group, gender, and laterality. Laterality of common PSRB diagnoses in comparison to the whole group were analysed. A two-sided p-value ≤0.05 was considered statistically significant.

Results
Demographics, symptoms, and referring diagnoses of RB and PSRB patients are given in Table 1. PSRB diagnoses

| Parameter                      | RB (n = 417) | PSRB (n = 190) | All patients (n = 607) |
|--------------------------------|--------------|----------------|------------------------|
| Sex                            |              |                |                        |
| Male n (%)                      | 226 (54.2)   | 129 (67.9)     | 355 (58.5)             |
| Female n (%)                    | 191 (48.2)   | 61 (32.1)      | 252 (41.5)             |
| Age                            |              |                |                        |
| Mean (months)                   | 38.3         | 49.4           | 41.8                   |
| Median (months)                 | 24           | 34.5           | 24                     |
| Range (months)                  | 1–396        | 1–276          | 1–396                  |
| Age group                      |              |                |                        |
| ≤1 year n (%)                   | 144 (34.5)   | 79 (41.6)      | 223 (36.7)             |
| >1–3 years n (%)                | 149 (35.7)   | 24 (12.6)      | 173 (28.5)             |
| >3–5 years n (%)                | 68 (16.3)    | 26 (13.7)      | 94 (15.5)              |
| >5 years n (%)                  | 56 (13.4)    | 61 (32.1)      | 117 (19.3)             |
| Laterality                      |              |                |                        |
| Unilateral n (%)                | 242 (58.0)   | 121 (63.7)     | 363 (59.8)             |
| Bilateral n (%)                 | 175 (42.0)   | 69 (36.3)      | 244 (40.2)             |
| Symptoms and referring diagnoses|              |                |                        |
| White colour in the centre of the eye n (%) | 170 (40.8) | 33 (17.4) | 203 (40.8) |
| Strabismus n (%)                | 58 (13.9)    | 37 (19.5)      | 95 (15.7)              |
| Decreased vision n (%)          | 3 (0.7)      | 16 (8.4)       | 19 (3.1)               |
| Involuntary eye movements n (%) | -            | 2 (1.1)        | 2 (0.3)                |
| Diagnoses by outside ophthalmologists | 186 (44.6) | 102 (53.7)     | 288 (47.4)             |

RB: retinoblastoma; PSRB: pseudoretinoblastoma
were detected in 190 of 607 (31.3%) patients who were referred for confirmation or treatment of RB. PSRBs were statistically more common in males compared to RB (129/190, 67.9% vs 226/417, 54.2%, \( p = 0.001 \)). The median patient age at baseline was greater in patients with PSRB (34.5 months) compared to patients with RB (24 months, \( p < 0.001 \)). Of 363/607 (59.8%) patients with unilateral disease in our series, RB was found in 242 (66.7%) and PSRB in 121 (33.3%). Of 244/607 (40.2%) patients with bilateral disease, RB was detected in 175 (71.7%) and PSRB in 69 (28.3%). There was no significant difference in terms of laterality among RB and PSRB cases (\( p > 0.05 \)).

The frequency of RB was higher than PSRB in the \( \leq 1 \) year old (144/223, 64.6% vs 79/223, 35.4%) and \( >3–5 \) years old age groups (68/94, 72.3% vs 26/94, 27.7%) but this difference was not statistically significant. RB frequency was significantly higher than PSRB frequency in the \( >1–3 \) years old age group (149/173, 86.1% vs 24/173, 13.9%, \( p = 0.001 \)). PSRB frequency was significantly higher than RB frequency in the \( >5 \) years old age group (61/117, 52.1% vs 56/117, 47.9%, \( p = 0.001 \)).

The distribution of PSRBs according to age groups were as follows: 79/190 (41.6%) in the \( \leq 1 \) year age group; 24/190 (12.6%) in the \( >1–3 \) years age group; 26/190 (13.7%) in the \( >3–5 \) years age group; and 61/190 (32.1%) in the \( >5 \) years age group (Figure 1). PFV was the most common diagnosis in \( \leq 1 \) year old patient group (21/79, 26.6%). PFV and Coats disease were the most common diagnoses in \( >1–3 \) year old patient group (4/24, 16.7%, for each diagnosis). Coats disease was the most common diagnosis in \( >3–5 \) years old and \( >5 \) years old patient groups (8/26, 30.8% and 8/61, 13.1% respectively).

In PSRB cases, symptoms were strabismus in 37/190 (19.5%) cases, white colour in the centre of the eye in 33/190 (17.4%), decreased vision in 16/190 (8.4%), and involuntary eye movements in 2/190 (1.1%). One hundred and two of 190 (53.7%) cases were referred with suspicion of RB after initial eye examination at another centre. RB diagnosis was more common than PSRB diagnoses (\( p < 0.001 \)) in patients presenting with leukocoria (170/203, 83.7% vs 33/203, 16.3%), strabismus (58/95, 61.1% vs 37/95, 38.9%), and RB diagnosis by the referring ophthalmologist (186/288, 64.6% vs 102/288, 35.4%). PSRB diagnoses were more common than RB diagnosis in patients presenting with decreased vision (16/19, 84.2% vs 3/19, 15.8%, \( p < 0.001 \)).

The distribution of PSRB diagnoses by gender and age is given in supplementary Table 1. Among 46 conditions mimicking RB, the 3 most common (Figure 2) were PFV (31/190, 16.3%, Figure 3(a) to (c)), Coats disease (29/190, 15.3%, Figure 3(d) to (l)), and ONHD (10/190, 5.3%). A total of 43 other PSRB diagnoses were spotted including the relatively more common entities such as FEVR (Figure 3(g) to (i)), ROP (Figure 3(j) to (l)), and RAH (Figure 4(a) and (b)) and less common conditions such as combined hamartoma (Figure 4(c) and (d)), morning glory syndrome (Figure 4(e) and (f)), and myelinated retinal nerve fibres (Figure 4(g) and (h)). In males, the 3 most common diagnoses were Coats disease (26/129, 20.2%), PFV (18/129, 14.0%), and chorioretinal coloboma (8/129,

![Figure 1. Bar graph shows the distribution of the most common pseudoretinoblastoma diagnoses in each age group (as \( \leq 1 \) year, \( >1–3 \) years, \( >3–5 \) years, and \( >5 \) years). Others: This group includes less common conditions after the 3 (2 in \( >3–5 \) years age group) first ranking diagnoses in each age group. PFV: Persistent fetal vasculature; ONHD: Optic nerve head drusen; ROP: Retinopathy of prematurity.](image)
6.2%) (Figure 2). The 3 most common diagnoses in females included PFV (13/61, 21.3%); retinal dysplasia, congenital glaucoma, and combined hamartoma (each accounting for 4/61, 6.6%) (Figure 2).

The distribution of PSRB diagnoses by laterality is given in Table 2. PSRB was unilateral in 121/190 (63.7%) patients and bilateral in 69/190 (36.3%). The 3 most common unilateral diagnoses included Coats disease (29/121, 24.0%), PFV (14/121, 11.6%), and RAH (6/121, 5.0%). The 3 most common bilateral diagnoses were PFV (17/69, 24.6%), ONHD (9/69, 13.0%), and ROP (7/69, 10.1%). Coats disease usually occurred unilaterally and the rate of unilateral presentation was statistically significant compared to the rest of the PSRB cohort (p < 0.001). PFV, ONHD, and ROP often manifested as bilateral diseases and the rate of bilateral presentation of each disease was statistically significant compared to the rest of the PSRB group (p = 0.019, p = 0.001, and p = 0.001 respectively).

The frequency of lesions simulating RB was lower in the first half of the study period (49/283, 17.3%) compared to the second half (141/324, 43.5%, p < 0.001). The 3 most common conditions mimicking RB in the first half of our study included Coats disease (12/49, 24.5%), PFV (7/49, 14.3%), and retinal dysplasia (5/49, 10.2%). The 3 most common PSRB diagnoses in the second half of our study were PFV (24/141, 17.0%), Coats disease (17/141, 12.0%), and ONHD (10/141, 7.1%).

In all PSRB cases, the correct diagnosis was made on clinical examination and ancillary testing without the need for enucleation. Enucleation was done in 17/190 (8.9%) PSRB cases due to blind painful eye, total retinal detachment (RD), VH, and intraocular tumour other than RB. Histopathological examination findings were consistent with phthisis bulbi in 5 eyes, RD in 5 eyes, Coats disease in 2 eyes, retinal dysplasia in 2 eyes, microphthalmia in 2 eyes, and medulloepithelioma in 1 eye. No eye was mistakenly enucleated for RB and proved to be a PSRB diagnosis.

Discussion

The rate of the lesions mimicking RB has been reported to range between 16% to 53% in previous reports. PFV and Coats disease are the most common lesions mimicking RB in several clinical studies. Other less common causes of PSRB included ROP, FEVR, combined hamartoma, RAH, retinal dysplasia, incontinentia pigmenti, ciliary body melanoma, and endophthalmitis. In the current study, PSRB rate was 31.3% among cases referred for suspicion of RB. A total of 46 various entities mimicking RB were detected. The 3 most common PSRB lesions included PFV (16.3%), Coats disease (15.3%), and ONHD (5.3%).

In a study evaluating the accuracy of RB referring diagnoses, Maki et al. found PSRB lesions in 14 of 48 (29.2%) patients presenting with leukocoria, in 12 of 24 (50.0%) patients with esotropia, in 6 of 6 (100%) patients with microphthalmia, and in 4 of 12 (33.3%) patients with other findings including erythema, epiphora/tearing, poor visual acuity, nystagmus, and orange pupil. Shields et al. reported that the most common presenting symptom in PSRB patients was decreased vision (76%).
Ghassemi et al. noted strabismus (39.2%) and leukocoria (39.1%) as the most common symptoms in PSRB patients. The most common symptom was strabismus in our PSRB patients (19.5%). PSRB conditions were detected in 16.3%, 38.9%, and 84.2% of patients who had symptoms of white colour in the centre of the eye, strabismus, and decreased vision respectively. The rate of PSRB was 35.4% in patients who were referred with RB diagnosis by the outside ophthalmologists. PSRB diagnoses were more common (84.2%) compared to RB diagnosis (15.8%) in patients presenting with decreased vision. This situation could be related to the fact that 29.7% (124/417) of children with RB and 45.8% (87/190) of children with PSRB were >3 years old at presentation, at an age when crude vision determination is possible.

Figure 3. Wide-angle and fluorescein enhancement Retcam images of cases with persistent fetal vasculature (PFV), Coats disease, familial exudative vitreoretinopathy (FEVR), and retinopathy of prematurity (ROP). PFV (Figure a–c) Retcam images of PFV show fibrovascular stalk (a), dragged ciliary processes (a, b), and Mittendorf dot on the posterior lens capsule which represents the anterior attachment of the hyaloid artery (b). (c) Retcam fluorescein angiogram demonstrates hyperfluorescence of the fibrovascular stalk and ciliary processes in the late venous phase. Coats disease (Figure d–f) (d) Retcam image of Coats disease shows exudates in the posterior pole, subretinal fluid, laser photocoagulation spots, peripheral retinal ridge with subretinal exudation, and telangiectatic vessels in the periphery. Retcam fluorescein angiograms (e, f) demonstrate vascular leakage on the peripheral retinal ridge with subretinal exudation; telangiectatic vessels, microaneurysms, areas of capillary dropout and non-perfusion in the peripheral retina. (e, f) Hyperfluorescence is noted under the subretinal exudates located in the superior macula in the late venous phase (e, f). FEVR (Figure g–i) (g) Retcam image of FEVR shows macular dragging, diffuse subretinal exudation, and falciform retinal fold merging with peripheral fibrovascular tissue @ 10 o’clock. Retcam fluorescein angiogram demonstrates hyperfluorescence under the retina with diffuse leakage as well as the peripheral fibrovascular tissue (h). Diffuse leakage is observed in the inferonasal retina (i). ROP with plus disease (Figure j–l) (j) Retcam image of ROP shows retinal detachment, retinal hemorrhages, and non-perfusion. Retcam fluorescein angiogram demonstrates vascular dilation and tortuosity (k, l), large avascular areas and non-perfusion (k, l), and retinal neovascularization (l).
Previous studies reported male preponderance (64–69%) in PSRB patients. Similarly, males outnumbered females in our series (67.9% vs 32.1%, p = 0.001). In our study, the most common PSRB diagnoses in males and females were Coats disease (20.2%) and PFV (21.3%), respectively. PSRB diagnoses including PFV, ONHD, chorioretinal coloboma, FEVR, ROP, optic disc hypoplasia, RD, microphthalmia, retinal capillary hemangioblastoma, juvenile xanthogranuloma, phthisis bulbi, choroidal osteoma, Axenfeld-Rieger syndrome, congenital cataract, and subretinal hemorrhage were more likely to be encountered in males. Diagnoses including congenital glaucoma, retinal dysplasia, combined hamartoma, leukemic infiltration of the retina, and iris stromal cyst were more likely to be encountered in females.

Shields et al. reported that the most frequent lesions simulating RB in patients ≤1 year and >1 year age groups were PFV and Coats disease, respectively. The median age of PSRB patients was 24 months at baseline in their series. In our study, PFV was the most common diagnosis in ≤1 year old patient group (26.6%). In >1–3 years old patient group, PFV and Coats disease were the most frequent lesions (16.7%, for each diagnosis). In >3–5 years old and >5 years old patient groups, Coats disease was the most common diagnosis (30.8% and 13.1% respectively). The median patient age at baseline was greater in patients with PSRB compared to patients with RB (34.5 months vs 24 months, p<0.001). Of PSRB patients, 41.6% were in the ≤1 year old, 12.6% were in the >1–3 years old, 13.7% were in the >3–5 years old, and 32.1% were in the >5 years old groups. While RB frequency was statistically higher than PSRB frequency in the >1–3 years old group (p = 0.001), PSRB frequency was statistically higher than RB frequency in the >5 years old group (p = 0.001).

In our study, PSRB was unilateral in 121/190 (63.7%) and bilateral in 69/190 (36.3%) of the patients. Similarly, Ghassemi et al. reported that of 138 cases with PSRB, 95 (68.8%) were unilateral and 43 (31.2%) were bilateral. Coats disease usually presented unilaterally (p<0.001) while PFV, ONHD, and ROP as bilateral diseases (p = 0.019, p = 0.001, and p = 0.001 respectively).

In our series, the rate of PSRB diagnosis among patients referred with suspicion of RB was lower in the first study period compared to the second period (17.3% vs 43.5%, p<0.001). This may be related to the fact that awareness of ophthalmologists to earlier diagnosis of RB increased during the recent years so that many cases with suspicion of RB or simulating conditions were promptly referred to our service. The most frequent PSRB diagnoses were Coats disease (24.5%) and PFV (17.0%) respectively in the first and second halves of our study.

The frequency of PSRB conditions in eyes enucleated for suspected RB have been reported between 1.4% to 40.0%. In our series, 17 of 190 (8.9%) PSRB cases underwent enucleation due to a blind painful eye, total RD, VH, and another intraocular tumour. No eye was mistakenly enucleated for RB and proved to be a PSRB condition on histopathological examination.
| Diagnosis                          | Laterality |
|-----------------------------------|------------|
|                                   | Unilateral (n = 121) | Bilateral (n = 69) |
| Persistent fetal vasculature (n = 31) | 14 (11.6, 45.2) | 17 (24.6, 54.8) |
| Coats disease (n = 29)             | 29 (24.0, 100) | - |
| Optic nerve head drusen (n = 10)   | 1 (0.8, 10.0) | 9 (13.0, 90.0) |
| Chorioretinal coloboma (n = 8)     | 3 (2.5, 37.5) | 5 (7.2, 62.5) |
| FEVR (n = 7)                       | 4 (3.3, 57.1) | 3 (4.3, 42.9) |
| Retinopathy of prematurity (n = 7) | - | 7 (10.1, 100) |
| Optic disc hypoplasia (n = 7)      | 4 (3.3, 57.1) | 3 (4.3, 42.9) |
| Congenital glaucoma (n = 6)        | 3 (2.5, 50.0) | 3 (4.3, 50.0) |
| Retinal dysplasia (n = 6)          | 2 (1.7, 33.3) | 4 (5.8, 66.7) |
| Retinal astrocytic hamartoma (n = 6) | 6 (5.0, 100) | - |
| Retinal detachment (n = 5)         | 5 (4.1, 100) | - |
| Combined hamartoma (n = 5)         | 4 (3.3, 80.0) | 1 (1.4, 20.0) |
| Microphthalmia (n = 4)             | 2 (1.7, 50.0) | 2 (2.9, 50.0) |
| Vitreous hemorrhage (n = 4)        | 4 (3.3, 100) | - |
| Leukemic infiltration of the retina (n = 4) | 3 (2.5, 75.0) | 1 (1.4, 25.0) |
| Retinal capillary haemangioblastoma (n = 4) | 4 (3.3, 100) | - |
| Juvenile xanthogranuloma (n = 3)   | 3 (2.5, 100) | - |
| Phthisis bulbi (n = 3)             | 3 (2.5, 100) | - |
| Choroidal osteoma (n = 3)          | 3 (2.5, 100) | - |
| Axenfeld-Rieger syndrome (n = 2)   | 2 (1.7, 100) | - |
| Congenital cataract (n = 2)        | 1 (0.8, 50.0) | 1 (1.4, 50.0) |
| Iris stromal cyst (n = 2)          | 2 (1.7, 100) | - |
| Fundus vasoproliferative tumor (n = 2) | 2 (1.7, 100) | - |
| Incontinentia pigmenti (n = 2)     | - | 2 (2.9, 100) |
| CHRPE (n = 2)                      | 2 (1.7, 100) | - |
| Falciform retinal fold (n = 2)     | 1 (0.8, 50.0) | 1 (1.4, 50.0) |
| Choroidal nevus (n = 2)            | 2 (1.7, 100) | - |
| Ocular albinism (n = 2)            | - | 2 (2.9, 100) |
| Medulloepithelioma (n = 2)         | 2 (1.7, 100) | - |
| Subretinal hemorrhage (n = 2)      | 2 (1.7, 100) | - |
| Vitreous opacities (n = 1)         | - | 1 (1.4, 100) |
| Vitreoretinal tuft (n = 1)         | 1 (0.8, 100) | - |
| Morning glory disc anomaly (n = 1) | 1 (0.8, 100) | - |
| MRNF (n = 1)                       | - | 1 (1.4, 100) |
| Optic atrophy (n = 1)              | - | 1 (1.4, 100) |
| Choroideremia (n = 1)              | - | 1 (1.4, 100) |
| Diffuse choroidal hemangioma (n = 1) | 1 (0.8, 100) | - |
| Choroidal choriostoma (n = 1)      | - | 1 (1.4, 100) |
| Central areolar choroidal dystrophy (n = 1) | - | 1 (1.4, 100) |
| Choroidal neovascular membrane (n = 1) | 1 (0.8, 100) | - |
| Juvenile retinoschisis (n = 1)     | - | 1 (1.4, 100) |
| Cytomegalovirus retinitis (n = 1)  | 1 (0.8, 100) | - |
| Toxocariasis (n = 1)               | 1 (0.8, 100) | - |
| Grouped pigmentation of the RPE (n = 1) | 1 (0.8, 100) | - |
| Wagner syndrome (n = 1)            | - | 1 (1.4, 100) |
| MLCRD syndrome (n = 1)             | 1 (0.8, 100) | - |

*Number (% per laterality, % per diagnosis).

FEVR: familial exudative vitreoretinopathy; CHRPE: congenital hypertrophy of the retinal pigment epithelium; MRNF: myelinated retinal nerve fibres; RPE: retinal pigment epithelium; MLCRD: microcephaly, lymphedema, chorioretinal dysplasia.
Conclusions

PSRB spectrum encompasses different diseases, the distribution of which differ depending on gender, age, and laterality. One hundred and ninety of 607 (31.3%) patients who were referred for confirmation or treatment of RB proved to be PSRB conditions in this series. In males, the 3 most common PSRB diagnoses were Coats disease, PFV, and chorioretinal coloboma. The 3 most common PSRB diagnoses in females included PFV, retinal dysplasia, congenital chorioretinal coloboma. The 3 most common PSRB diagnoses were Coats disease, PFV, and combined hamartoma. PFV was the most common diagnosis in ≤1 year old patient group. Coats disease and PFV were the most common diagnoses in >1–3 years old patient group. Coats disease was the most common diagnosis in >3–5 years old and >5 years old patient groups. The most common unilateral and bilateral diagnoses were Coats disease and PFV respectively.

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Supplemental material

Supplemental material for this article is available online.

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