Supplemental Table: Reported incidence of Zika cases and CZS cases in the Americas

Pan American Health Organization
World Health Organization
Americas

Zika cases and congenital syndrome associated with Zika virus reported by countries and territories in the Americas, 2015 - 2018
Cumulative cases
Data as of 04 January 2018 2:00 PM EST

Country/Territory	Autochthonous cases[a]		Imported cases	Incidence Rate[b]	Deaths among Zika cases[c]	Confirmed congenital syndrome associated with Zika virus infection[d]	Population X 1000[e,f]
	Suspected	Confirmed					
North America							
Bermuda	0	0	6	*0.00*	0	0	71
Canada	0	0	544	*0.00*	0	1	36,284
	0	227	5,335	*0.07*	0	102	325,296
Subtotal	***0***	***227***	***5,885***	***0.06***	***0***	***103***	***361,651***
Latin America and the Caribbean							
Latin America							
Mexico[g]	0	11,805	15	9.18	0	20	128,624
Central American Isthmus							
Belize	2,005	355	0	636.12	0	0	371
Costa Rica[h]	7,782	2,008	32	200.57	0	19	4,881
El Salvador	11,789	51	0	192.61	0	4	6,147
Guatemala[a]	3,907	1,032	0	29.62	0	140	16,674
Honduras[i]	32,385	308	0	399.18	0	8	8,190
Nicaragua	0	2,795	3	45.20	0	2	6,184
Panama	5,646	1,253	42	172.91	0	17	3,990
Subtotal	***63,514***	***7,802***	***77***	***153.58***	***0***	***190***	***46,437***
Latin Caribbean							
Cuba	0	187	58	1.64	0	0	11,392
Dominican Republic[a]	4,919	335	0	49.07	0	85	10,708
French Guiana[a,k]	10,500	483	10	3579.35	0	1	276
Guadeloupe [l]	30,845	382	0	6615.89	0	5	472
Haiti[j,l]	2,955	5	0	27.12	0	1	10,916
Martinique[a],[m]	36,680	21	0	9267.93	0	5	396
Puerto Rico[n]	0	40,562	137	1101.93	5	47	3,681
Saint Barthelemy	1,005	61	0	10660.00	0	0	10
Saint Martin [l,o]	3,283	200	0	9675.00	0	1	36
Subtotal	***90,187***	***42,236***	***205***	***349.52***	***5***	***145***	***37,887***
Andean Area							
Bolivia (Plurinational State of)	2,672	811	4	31.75	0	14	10,971
Colombia[a]	98,803	9,927	0	223.49	0	248	48,650
Ecuador[a]	3,954	2,397	15	38.48	0	14	16,506
Peru[a]	7,597	1,530	22	28.55	0	0	31,970
Venezuela (Bolivarian Republic of)	60,146	2,413	0	198.49	0	0	31,518
Subtotal	***173,172***	***17,078***	***41***	***136.27***	***0***	***276***	***139,615***
Brazil[17]	231,725	137,288	0	176.10	11	2,952	209,553
Southern Cone							
Argentina[18]	539	278	41	1.85	0	5	44,060
Chile	0	0	34	0.00	0	0	18,131
Paraguay[19]	715	20	0	10.93	0	2	6,725
Uruguay	0	0	1	0.00	0	0	3,444
Subtotal	***1,254***	***298***	***76***	***2.14***	***0***	***7***	***72,360***
Non-Latin Caribbean							
Anguilla	31	23	1	317.65	0	0	17
Antigua and Barbuda[20]	540	25	2	601.06	0	0	94
Aruba	1,208	703	7	1676.32	0	0	114
Bahamas[21]	531	25	3	140.76	0	0	395
Barbados[22]	715	150	0	296.23	0	1	292
Bonaire, St Eustatius and Saba[23]	235	437	0	2688.00	0	0	25
Cayman Islands[24]	237	30	11	460.34	0	0	58
Curacao[25]	4,476	2,049	0	4379.19	0	0	149
Dominica	1,154	79	0	1666.22	0	0	74
Grenada	335	118	0	408.11	0	2	111
Guyana[26]	0	37	0	4.79	0	3	773
Jamaica	7,772	203	0	284.01	0	0	2,808
Montserrat	18	5	0	460.00	0	0	5
Saint Kitts and Nevis	554	33	0	1107.55	0	0	53
Saint Lucia	822	50	0	528.48	0	0	165
Saint Vincent and the Grenadines	508	83	0	579.41	0	0	102
Sint Maarten (Dutch part)	253	149	0	957.14	0	0	42
Suriname	2,768	724	0	637.23	4	4	548
Trinidad and Tobago[27]	0	718	1	52.52	0	17	1,367
Turks and Caicos Islands	203	25	3	438.46	0	0	52
Virgin Islands (UK)	74	53	0	362.86	0	0	35
Virgin Islands (US)	1,165	1,024	2	2125.24	0	0	103
Subtotal	***23,599***	***6,743***	***30***	***411.03***	***4***	***27***	***7,382***
TOTAL	**593,451**	**223,477**	**6,329**	**80.41**	**20**	**3,720**	**1,003,509**

SOURCE: Cases reported by the IHR National Focal Points to the WHO IHR Regional Contact Point for the Americas and through the Ministry of Health websites, 2016–17

NOTES: Data is shared in an effort to transparently disseminate available information reported by Member States. Any subsequent interpretation and analysis of this data should consider differences in surveillance systems and reporting requirements. Information may change as Member States review and integrate retrospective data.

[a] PAHO/WHO Case definitions for suspected and confirmed Zika cases is available at: http://www.paho.org/hq/index.php?option=com_content&view=article&id=11117&Itemid=41532&lang=en

[b] Incidence rate (autochthonous suspected + autochthonous confirmed) / 100,000 pop.

[c] Deaths among Zika cases do not include deaths related to Guillain-Barré syndrome (GBS) or congenital malformations associated with Zika virus infection. As of 12 May 2016, previously reported deaths related to GBS were removed from this total.

[d] Confirmed congenital syndrome associated with Zika virus infection case definition: Live newborn who meets the criteria for a suspected case of congenital syndrome associated with Zika virus AND Zika virus infection was detected in specimens of the newborn, regardless of detection of other pathogens. Case definitions for congenital syndrome associated with Zika virus infection is available at: http://www.paho.org/hq/index.php?option=com_content&view=article&id=11117&Itemid=41532&lang=en

[e] Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2015 Revision, http://esa.un.org/unpd/wpp/index.htm, July 2015. Processed and revised by PAHO. Population by Sex and Age range for Countries and Territories of Americas 2017. http://www.paho.org/data/index.php/en/indicators/demographics-core/106-cat-data-en/336-poblacion-reg-en.html?showall=&limitstart Accessed on January 26, 2017.
International Programs Center, Population Division, U.S. Census Bureau. IDB Release Date: December 2013.
http://www.paho.org/data/index.php/en/indicators/demographics-core/106-cat-data-en/336-poblacion-reg-en.html?showall=&limitstart Accessed on January 26, 2017.
Population source for Saint Barthelemy and Saint Martin available for 2016 (updated 31 December 2016) available at: Journal official de la République Francaise. https://www.legifrance.gouv.fr/jo_pdf.do?id=JORFTEXT000033748679 Accessed on January 26, 2017.
Population source for Bonaire, Sint Eustatius and Saba for 2015 (updated 29 November 2016) available at: Caribisch Nederland; bevolkingsontwikkeling, geboorte, sterfte, migratie - 29 November 2016
http://statline.cbs.nl/StatWeb/publication/?DM=SLNL&PA=80539ned&D1=0-1,9-10&D2=a&D3=a&HDR=T&STB=G1,G2&CHARTTYPE=1&VW=T Accessed on January 26, 2017.

[f] For countries and territories which reported their first Zika case in 2015, the population is based on the average between 2015-2017. For countries and territories which reported their first Zika case in 2016, the population is based on the average between 2016-2017. For countries and territories which did not report Zika cases between 2015-2017, the population is based on the average between 2015-2017.

[g] In addition to the 227 reported cases acquired through presumed local mosquito-borne transmission, 51 cases were acquired through other routes, including sexual transmission (N=48), laboratory transmission (N=1), and person-to-person transmission through an unknown route (N=1). As of 13 September 2017, 8 pregnancy losses with birth defects have been reported. Available at: http://www.cdc.gov/zika/geo/united-states.html

[h] On 11 September 2017, the Mexico Secretariat of Health reported 20 cumulative confirmed cases of congenital syndrome associated with Zika virus infection, one of which was stillborn.
https://www.gob.mx/cms/uploads/attachment/file/255061/Desglose_Casos_Sx_Congenito_asociado_a_Zika.pdf

[i] The difference between the number of confirmed cases (2014) of Zika reported by 21 December 2017 with respect to the number of confirmed cases (2008) reported by 04 January 2018 is due to a retrospective adjustment of data by the Ministry of Health of Costa Rica. Available at: https://www.ministeriodesalud.go.cr/index.php/vigilancia-de-la-salud/boletines/3680-boletin-epidemiologico-no-45-2017-zika-chikungunya-y-dengue/file

[j] In the previous Zika update from the Guatemala Ministry of Public Health on 20 March 2017, a total of 59 cases of confirmed congenital syndrome associated with Zika virus infection were notified to PAHO / WHO (EW 32 of 2015 to EW 9 of 2017). On 25 May 2017, the Guatemala Ministry of Public Health notified 140 cases of confirmed congenital syndrome associated with Zika virus infection to PAHO/WHO (EW 32 of 2015 to EW 19 of 2017), of which 59 cases were newly reported cases between EW 14 and EW 18 of 2017.

[k] On 30 August 2017, the Honduras Ministry of Health reported 10 confirmed and 379 suspected cases of Zika (EW 1 of 2017 and EW 33 of 2017), corresponding to a cumulative total of 308 confirmed and 32,385 suspected cases (EW 49 of 2015 to EW 33 of 2017). In addition, the Honduras Ministry of Health reported 6 cases of confirmed congenital syndrome associated with Zika virus infection (EW 1 of 2017 and EW 33 of 2017), corresponding to a cumulative total of 8 confirmed cases (EW 1 of 2016 to EW 33 of 2017)

[l] The difference between the number of reported confirmed cases of Zika from 10 August 2017 (345 cases) to 21 August 2017 (335 cases) is due to retrospective adjustment of data by the Dominican Republic Ministry of Public Health and Social Assistance. The difference between the number of reported cases of confirmed congenital syndrome associated with Zika virus infection from 10 August 2017 (93 cases) to 21 August 2017 (85 cases) is due to a change in the criteria for the case definition of microcephaly by the Dominican Republic Ministry of Public Health and Social Assistance, which resulted in the retrospective re-classification of cases.

[m] The reported number of suspected cases of Zika are estimates. According to Santé publique France, the estimated number of suspected cases is the sum of the number of visits recorded by the Decentralized Centers of Prevention and Care (CDPS) and the estimated number of people who sought medical care from a general practitioner for this purpose. The estimate is based on data collected by the sentinel physician network.

[n] In addition to the one reported case of congenital syndrome, on 9 June 2017, Santé publique France reported 18 fetuses with cerebral malformations of mothers infected with Zika.

[o] In addition to the 5 reported cases of congenital syndrome, on 8 June 2017, Santé publique France reported 16 fetuses with cerebral malformations of mothers infected with Zika.

[p] In addition, on 4 August 2017, the number of reported fetuses with cerebral malformations of mothers infected with Zika went from 22 to 21, based on the Santé publique France modification.

[q] The difference between the number of reported suspected cases of Zika from 26 October 2017 (40,588 cases) to 02 November 2017 (40,562 cases) is due to retrospective adjustment of data by the Ministry of Health of Puerto Rico. Available at: http://www.salud.gov.pr/Estadisticas-Registros-y-Publicaciones/Informes%20Arbovirales/Reporte%20Arbovi%20semana%2040-2017.pdf

[r] The case reported by Santé publique France corresponds to a fetus with cerebral malformation of mothers infected with Zika.

[s] Data published in this table was provided by the Haiti Ministère de la Santé Publique et de la Population (MSPP), which reported 2,955 suspected and 5 confirmed cumulative cases between EW 1 and EW 32 of 2016. Note, on 17 February 2017, in a joint publication in the U.S. Centers for Disease Control and Prevention (CDC) Morbidity and Mortality Weekly Report (MMWR) between the National Laboratory of Public Health of Haiti, Directorate of Epidemiology, Laboratory and Research of Haiti, the U.S. CDC in Haiti and Tanzania, the Division of Global Health Protection of the U.S. CDC, and the National Malaria Control Program of Haiti, there was a total of 3,017 suspected cases and 19 confirmed cases of Zika reported between 12 October 2015 and 10 September 2016.

[t] The difference between the number of reported confirmed cases of Zika from 16 November 2017 (9927 cases) to 30 November 2017 (9925 cases) is due to retrospective adjustment of data by the Ministry of Health of Colombia. Available at: http://www.ins.gov.co/boletin-epidemiologico/Boletn%20Epidemiolgico/2017%20Bolet%C3%ADn%20epidemiol%C3%B3gico%20semana%2046.pdf

[u] The difference between the number of suspected (3753) and confirmed cases (3058) of Zika reported by 02 November 2017 with respect to the number of suspected (3863) and confirmed cases (2377) reported by 09 November 2017 is due to a retrospective adjustment of data by the Ministry of Health of Ecuador.

[v] The difference between the number of reported confirmed cases of Zika from 14 September 2017 (1518 cases) to 21 September 2017 (1517 cases) is due to retrospective adjustment of data by the Ministry of Health of Peru. Available at: http://www.dge.gob.pe/portal/docs/vigilancia/sala/2017/SE36/zika.pdf

[w] Brazil Ministry of Health case definition for confirmed cases of congenital syndrome associated with Zika virus infection includes confirmed and probable cases per PAHO's case definition. As of EW 36 of 2017, 1023 cases were confirmed for Zika virus by laboratory criteria.

[x] On 28 August 2017, the Argentina Ministry of Health notified PAHO/WHO of 539 suspected and 276 confirmed cases of Zika, distributed between EW 1 of 2016 and EW 32 of 2017, of which 435 suspected and 250 confirmed cases of Zika correspond to new cases notified between EW 1 and EW 32 of 2017. Within the framework of the integrated surveillance of arboviruses, 250 cases tested positive for Zika in areas without circulation of other flaviviruses. Additionally, the number of confirmed congenital syndrome associated with Zika include 2 autochthonous cases and 3 imported cases.

[y] The difference between the number of reported suspected cases of Zika from 07 December 2017 (691 cases) to 14 December 2017 (690 cases) is due to retrospective adjustment of data by the Ministry of Health of Paraguay. Available at: http://vigisalud.gov.py/boletines/12_12_2017_12_04_33_Boletin-Epidemiologico_SE-46.pdf

[z] In the previous Zika update from the Antigua and Barbuda Ministry of Health and The Environment on 25 November 2016, a total of 465 suspected and 14 confirmed cases were notified to PAHO/WHO (EW 31 to EW 46 of 2016). On 16 August 2017, the Antigua and Barbuda Ministry of Health and The Environment notified PAHO/WHO of 540 suspected cases and 25 confirmed cases distributed between EW 2 of 2016 and EW 27 of 2017. No confirmed cases have been reported between EW 1 and EW 27 of 2017.

[aa] In the previous Zika update from the Bahamas Ministry of Health on 19 June 2017, a total of 440 suspected and 25 confirmed cases of Zika were notified to PAHO / WHO (EW 1 of 2016 to EW 52 of 2016). On 23 August 2017, the Bahamas Ministry of Health reported 91 additional suspected cases (EW 1 of 2017 to EW 30 of 2017), resulting in a cumulative total of 531 suspected and 25 confirmed cases of Zika distributed between EW 1 of 2016 and EW 30 of 2017.

[ab] In the previous Zika update from the Barbados Ministry of Health on 16 December 2016, a total of 699 suspected and 46 confirmed cases were notified to PAHO / WHO (EW 1 of 2016 to EW 49 of 2016). On 27 April 2017, the Barbados Ministry of Health notified 705 suspected and 150 confirmed cases of Zika to PAHO/WHO occurred between EW 1 of 2016 to EW 13 of 2017. Of the 150 confirmed cases, 3 occured in 2015, 144 in 2016 and 3 in 2017.

[ac] In the 26 April Zika update from the Netherlands Ministry of Health, Welfare and Sport, a total of 235 suspected and 381 confirmed cases were notified to PAHO / WHO (EW 1 of 2016 to EW 16 of 2017). On 21 June 2017, the Netherlands Ministry of Health, Welfare and Sport reported 56 additional confirmed cases, resulting in a cumulative total of 235 suspected and 437 confirmed cases (EW 1 of 2016 to EW 22 of 2017). The data provided herein is the sum of confirmed cases reported for Bonaire (352), Sint Eustatius (61) and Saba (24).

[ad] On 21 August 2017, Public Health England reported one confirmed and 20 suspected cases of Zika (EW 1 of 2017 and EW 32 of 2017), corresponding to a cumulative total of 31 confirmed and 237 suspected cases (EW 1 of 2016 to EW 32 of 2017). The single confirmed case of Zika notified in 2017 is an imported case.

[ae] In the previous Zika update from the Netherlands Ministry of Health, Welfare and Sport on 26 April 2017, a total of 2,589 suspected and 1,259 confirmed cases were notified to PAHO / WHO (EW 1 of 2016 to EW 47 of 2016). On 10 July 2017, the Netherlands Ministry of Health, Welfare and Sport notified 4,476 suspected and 2,049 confirmed cases distributed between EW 1 of 2016 and 22 of 2017.

[af] The three cases of congenital syndrome associated with Zika virus infection were confirmed by the Guyana Ministry of Health on June 2017; these cases were detected between September and December 2016.

[ag] In the previous Zika update from Trinidad and Tobago Ministry of Health on 29 May 2017, a total of 3 cases of confirmed congenital syndrome associated with Zika virus infection were notified to PAHO / WHO (EW 6 of 2016 to EW 21 of 2017). On 21 August 2017, Trinidad and Tobago Ministry of Health notified 17 cases of confirmed congenital syndrome associated with Zika virus infection distributed between EW 32 of 2015 and EW 33 of 2017, of which 10 correspond to new cases notified between EW 1 and EW 33 of 2017.

Report Production: PAHO/WHO PHE/HIM/DVA
Suggested citation: Pan American Health Organization / World Health Organization. Zika suspected and confirmed cases reported by countries and territories in the Americas Cumulative cases, 2015-2017. Updated as of 04 January 2018. Washington, D.C.: PAHO/WHO; 2017.

Supplemental Figures

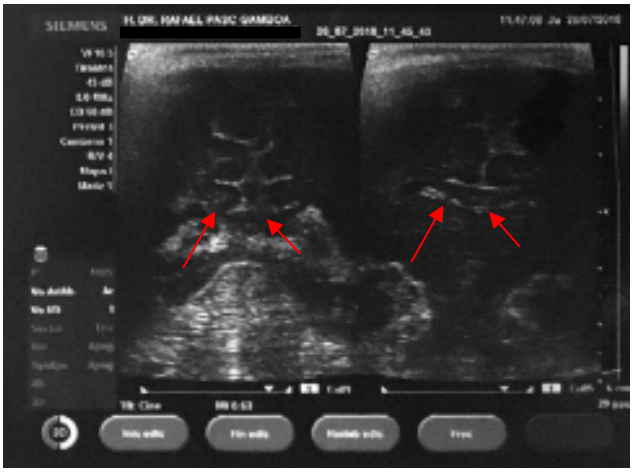

Figure 1 a. Midline sagittal view of cranial ultrasound of patient record number 4 taken at 3 days of life. The image shows hypoplasia of the corpus callosum.

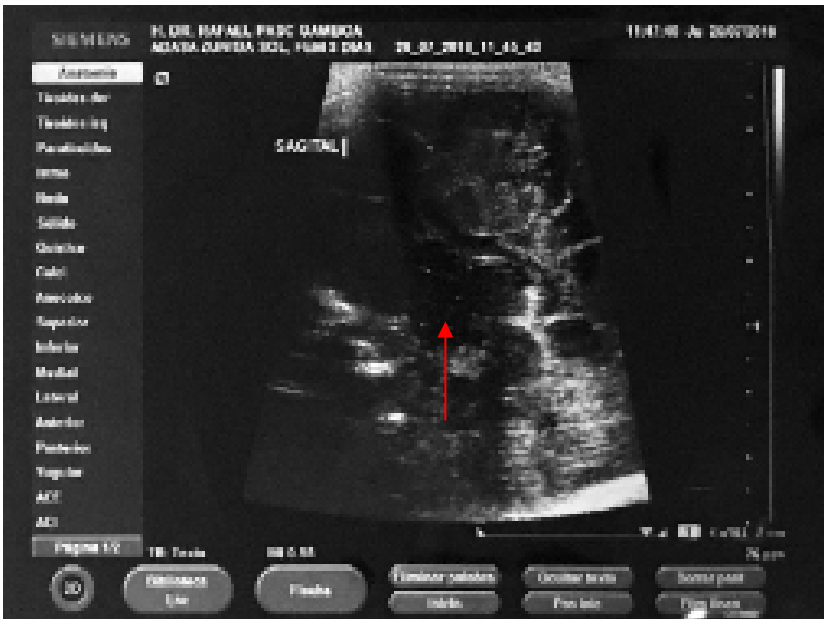

Figure 1 b. Parasagittal view of cranial ultrasound of patient record number 4 taken at 3 days of life. The image shows hypoplasia of the corpus callosum.

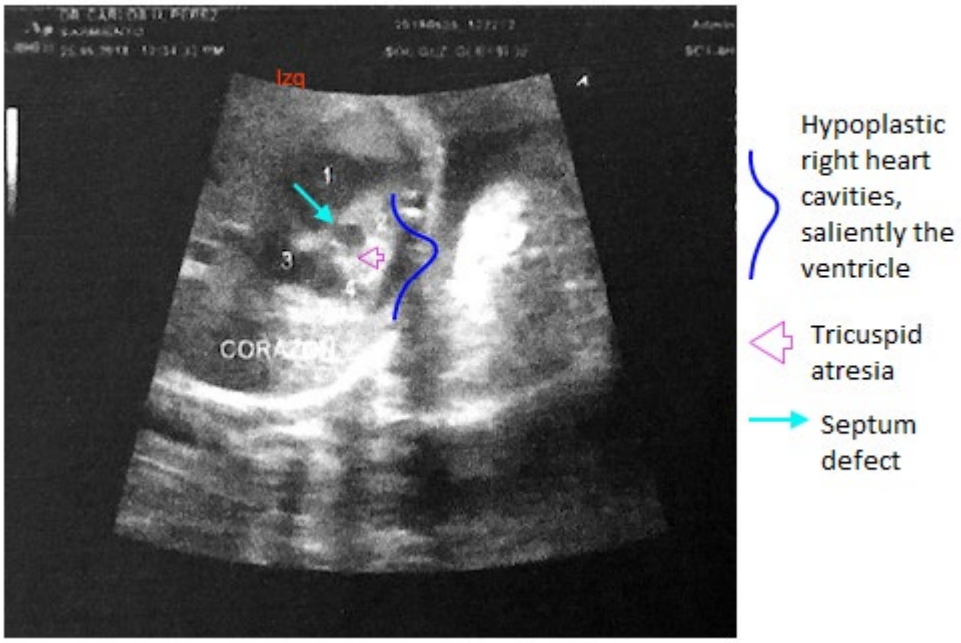

Figure 1 c. Fetal ecocardiography taken at 25 weeks of gestation on patient record number 4, shows evidence of heart birth defects.

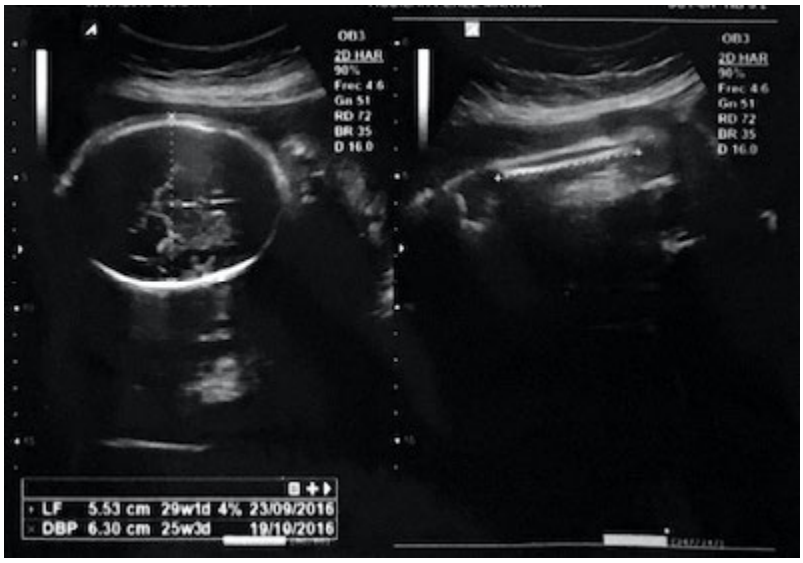

Figure 2 a. Fetal ultrasound of patient record number 6 taken at 28 weeks of gestation, shows biparietal diameter and head circumference

Figure 3 a. Prenatal US at week 32 of gestation of patient record number 7, showing left predominant ventriculomegaly on axial transventricular plane, (yellow arrows on the left panel), calcifications and periventricular leukomalacia.

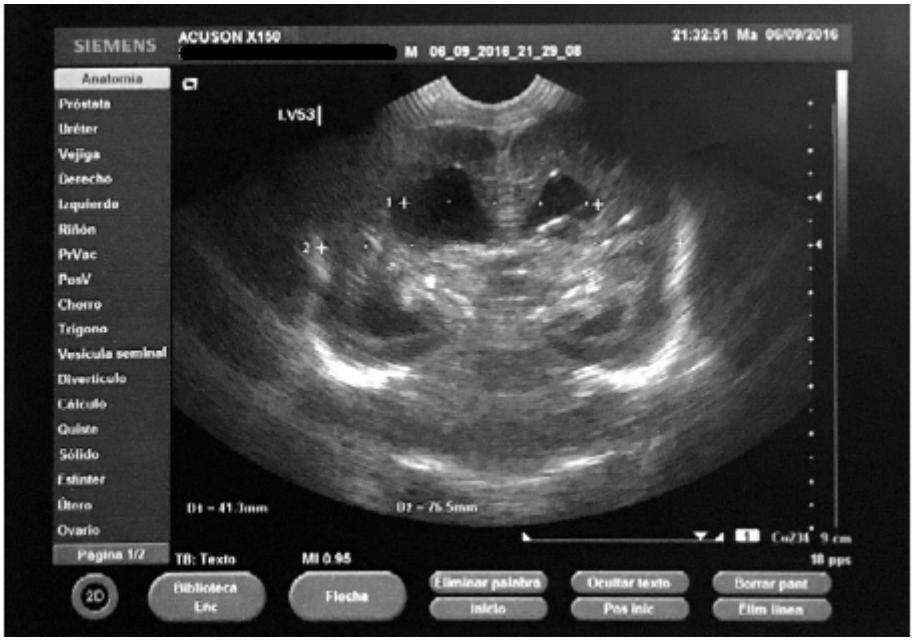

Figure 3 b. Coronal view of cranial ultrasound of patient record number 7 taken at one week of life. The image shows dilation of the lateral ventricles with an Evan Index of 0.53

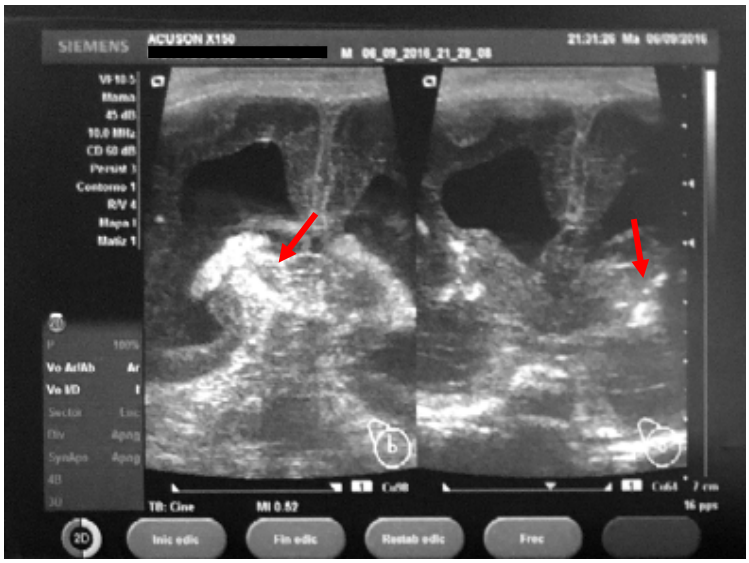

Figure 3 c. Coronal view of cranial ultrasound angled back to show the lateral ventricles of patient record number 7 taken at one week of life. The image shows periventricular calcifications (red arrows).

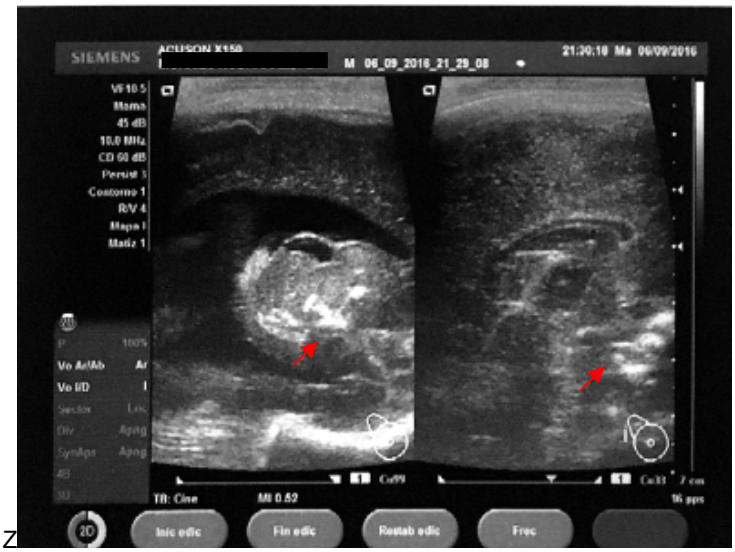

Figure 3 d. Parasagittal view of cranial ultrasound taken on patient record number 7 at one week of life. It shows calcifications (red arrows) near the thalamus.

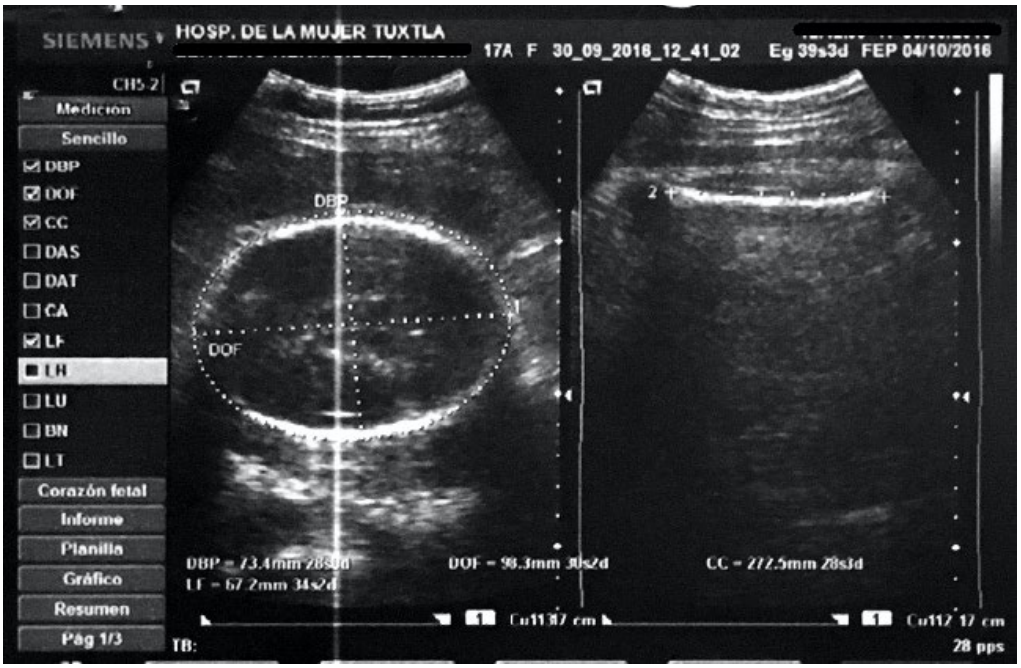

Figure 4 a. Fetal ultrasound of patient record number 8 at 30 weeks of gestation shows a head circumference estimate of 272 mm and femur length of 67.2, a ratio of 24.6, 3 standard deviations above the reference value.

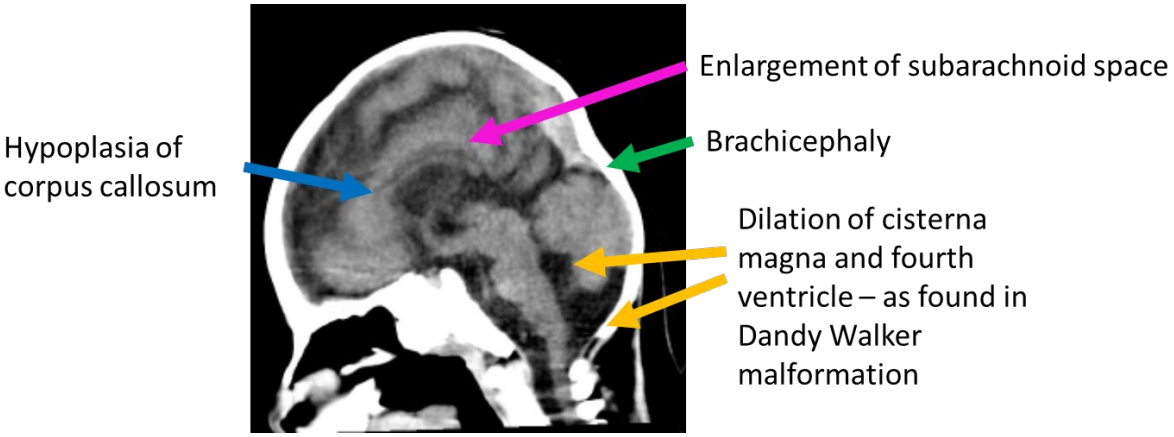

Figure 4 b. Midline sagittal view of computerized tomography of patient 8, undated, shows corpus callosum hypoplasia, enlargement of subarachnoid space, brachycephaly, findings compatible with Dandy Walker malformation.

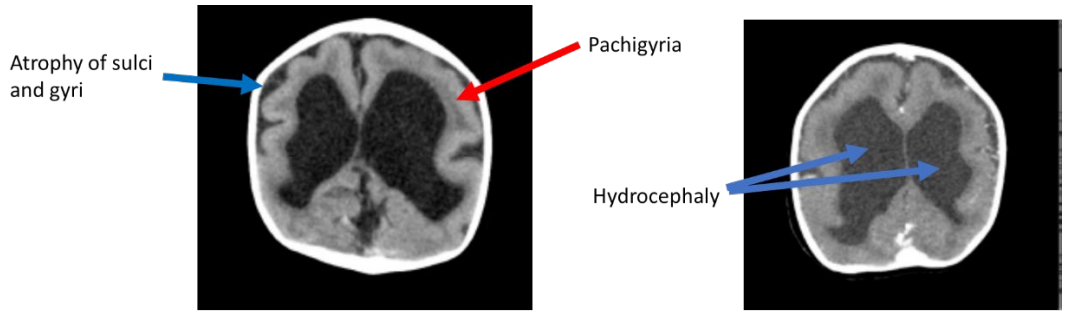

Figure 4 b. and c. Coronal views of neonatal computerized tomography of patient record number 8, undated, shows pachygyria in simple scan (b) and ventriculomegaly/hydrocephaly in contrasted view (c).

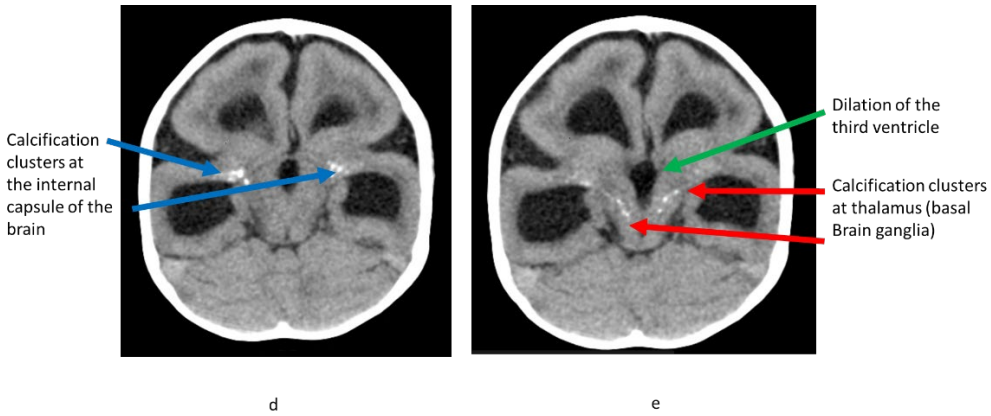

Figure 4 d. and e. Coronal views of neonatal computerized tomography of patient record number 8, undated, shows clusters of calcifications in the internal capsule (d) and at the thalamus (e). The latter also shows a significant dilation of the third ventricle.

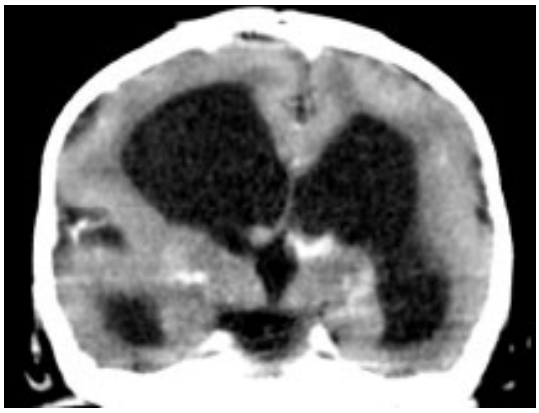

Figure 4 e. Coronal view of neonatal computerized tomography of patient record number 8, undated, shows a significant dilation of the ventricular system in the supratentorial and infratentorial compartments.

Figure 5 a. Image from a fetal ultrasound taken from patient record number 9, at week 23 of gestation, shows lateral ventriculomegaly.

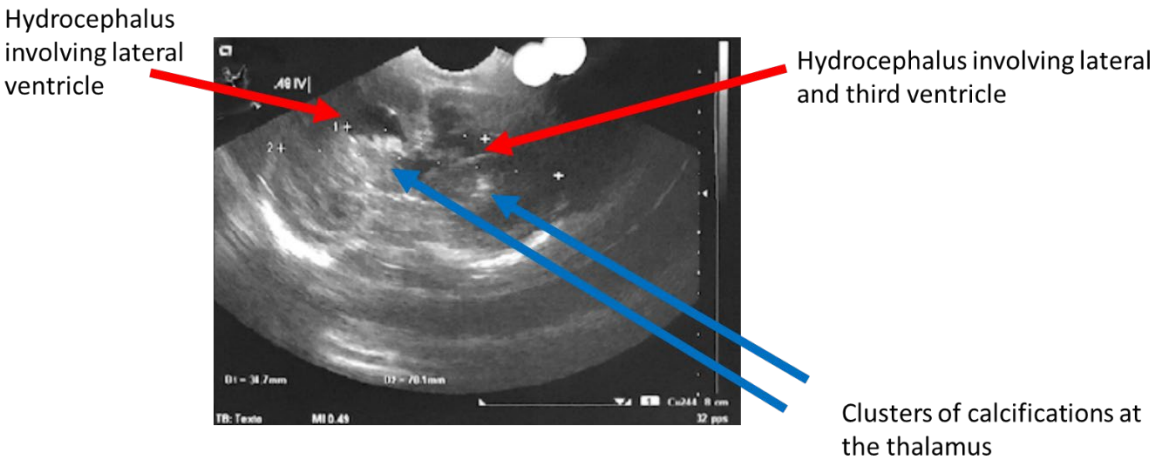

Figure 6 a. Coronal view of cranial ultrasound from patient record number 11, taken on the second day of life, shows hydrocephalus with an Evan Index of 0.48 and clusters of calcifications near the thalamus.

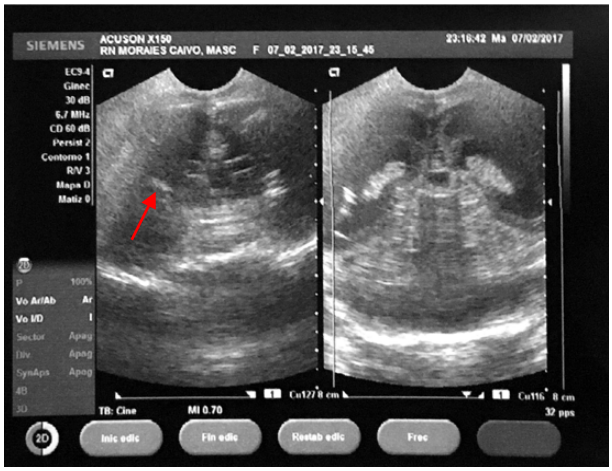

Figure 6 b. Coronal view of cranial ultrasound from patient record number 11, taken on the second day of life, shows periventricular and parenchymatoses calcifications.

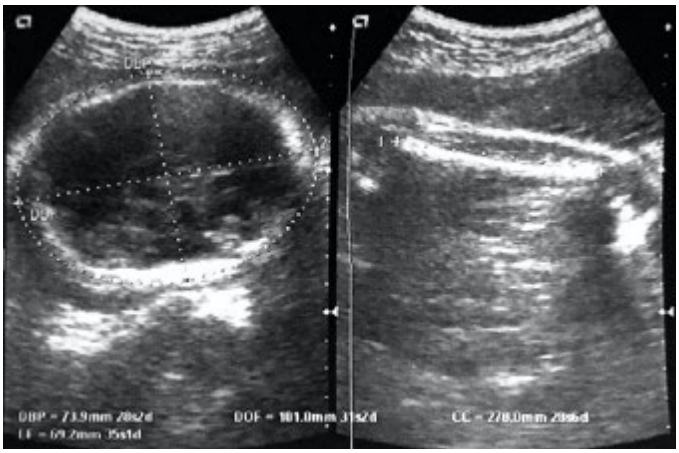

Figure 7 a. Fetal ultrasound of patient record number 12, taken at 35 weeks of gestation, shows a head circumference of 278 mm and a femur length of 69.2 mm, a HC/LF ratio of 24.8, in excess of the reference value by 3 standard deviations.

a b

Figure 8 a. Fetal ultrasound of patient record number 13, taken at 38 weeks of gestation, shows cranial meningocele with presence of cerebrospinal fluid (a), and exencephaly (atrophic brain tissue).

Figure 9 a. Axial view of fetal ultrasound from patient number 16, taken at 14 weeks, shows ventriculomegaly.

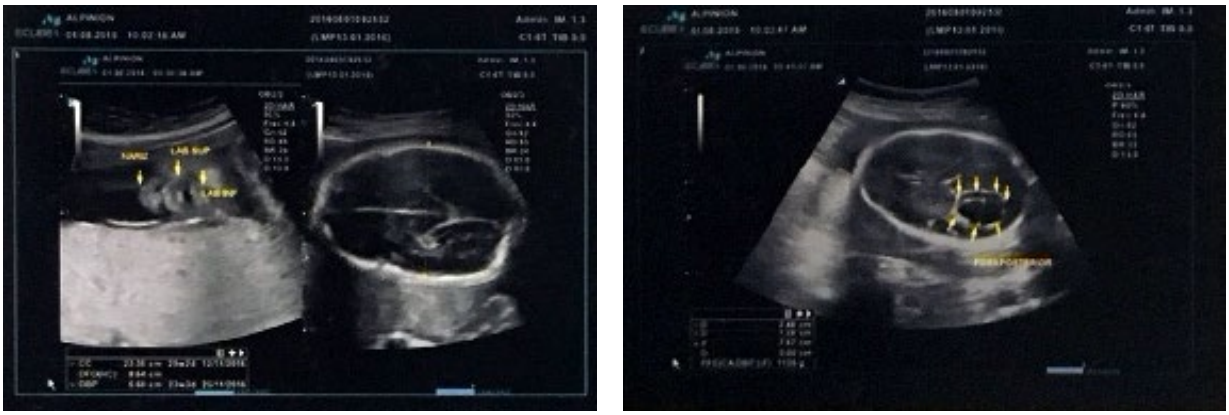

Figure 10 a. Fetal ultrasound from patient record number 19 taken at 28 weeks of gestation, shows cysts in the choroidal plexus cysts on yellow arrows.

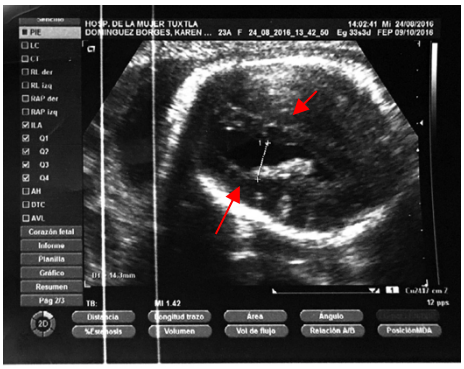

Figure 10 b. Axial view of fetal ultrasound from patient record number 19 taken at 33 weeks of gestation, shows ventriculomegaly.

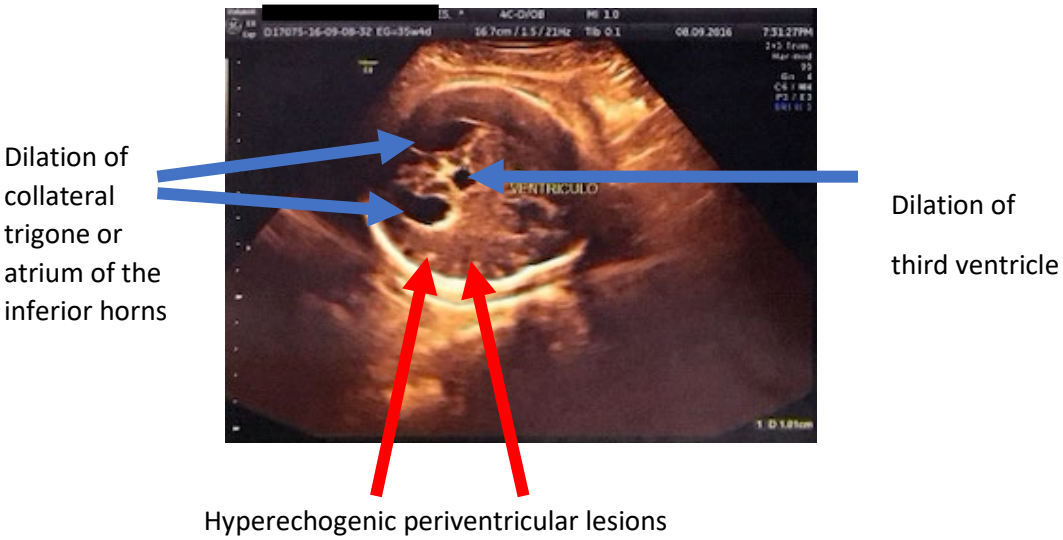

Figure 10 c. Prenatal ultrasound from patient record number 19, taken at 34 weeks of gestation, showing ventriculomegaly and suggesting cysts.

Figure 10 d. Axial view of prenatal ultrasound from patient record number 19, taken at 34 weeks of gestation, showing suggestive image agenesis of corpus callosum.

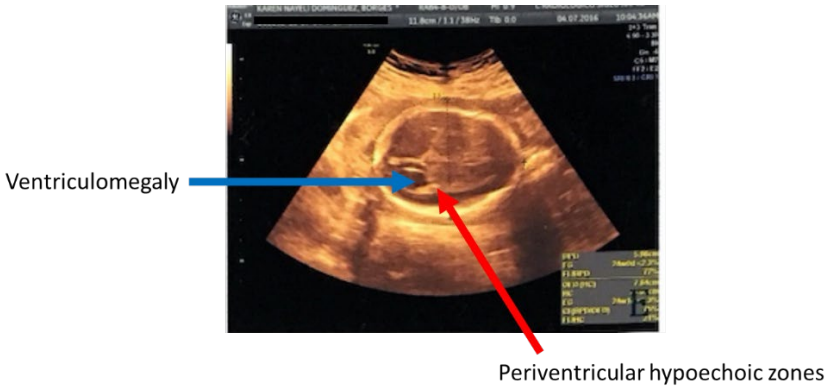

Figure 10 e. Prenatal ultrasound from patient record number 19, taken at 34 weeks of gestation, showing ventriculomegaly and suggesting cysts.

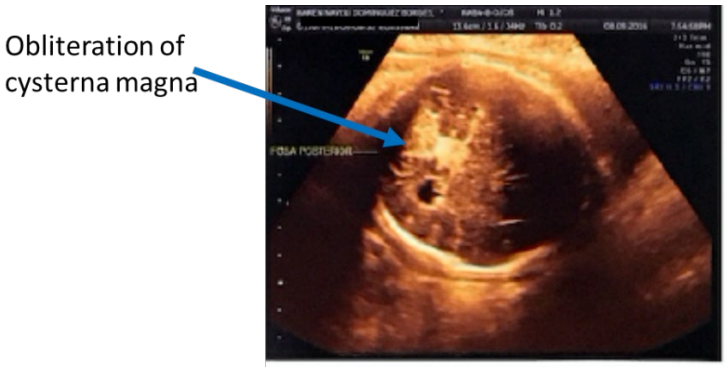

Figure 10 f. Prenatal ultrasound from patient record number 19, taken at 34 weeks of gestation, showing obliteration of *cisterna magna*.

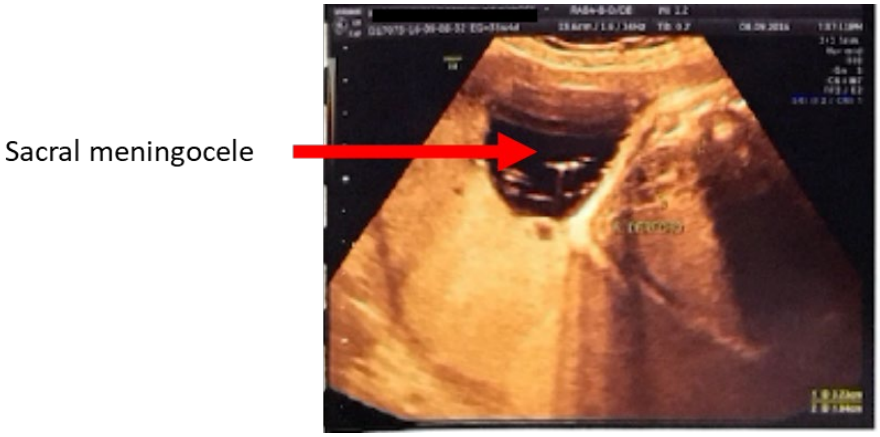

Figure 10 g. Prenatal ultrasound from patient record number 19, taken at 34 weeks of gestation, showing sacral meningocele.

Figure 10 h. Sagittal view of prenatal ultrasound from patient record number 19, taken at 34 weeks of gestation, showing posterior cyst of origin in lumbar spine.