**Table S1.** Responses from experts participating in Delphi process on prevention of preterm birth (PTB) considering cervical cerclage in twin pregnancies with cervical dilation

|  |  |
| --- | --- |
| **Item** | **Round in which item was included** |
| **Round 1 (N=117)** | **Round 2 (N=77)** |
| **Cervical cerclage placement**  |  |  |
| Minimum gestational age |  |  |
|  From any gestational age  | 11 (9.4) | – |
|  12 weeks | 38 (32.5) | – |
|  14 weeks | 25 (21.4) | – |
|  16 weeks | 33 (28.2) | – |
|  18 weeks | 3 (2.6) | – |
|  20 weeks | 3 (2.6) | – |
|  22 weeks | 0 (0.0) | – |
|  24 weeks | 1 (0.9) | – |
|  Other | 3 (2.6) | – |
| Maximum gestational age |  |  |
|  Until any gestational age  | 1 (0.9) | – |
|  22 weeks | 4 (3.4) | 6 (7.8) |
|  23 weeks | 39 (33.3)  | 10 (13.0) |
|  24 weeks | 48 (41.0) | 52 (67.5) |
|  25 weeks | 9 (7.7) | – |
|  26 weeks | 6 (5.1) | 7 (9.1) |
|  27 weeks | 1 (0.9) | – |
|  28 weeks | 4 (3.4) | 2 (2.6) |
|  Other | 5 (4.3) | – |
| Offered routinely in twin pregnancies with current cervical dilation | 71 (60.7)  | 68 (88.3)  |
| Maximum digitally examined cervical dilatation  |  |  |
|  3 cm  | 31 (26.5) | – |
|  4 cm | 27 (23.1) | – |
|  5 cm | 35 (29.9)  | 65 (84.4)  |
|  6 cm | 4 (3.4) | – |
|  No limit | 11 (9.4) | – |
|  Other | 9 (7.7) | – |
|  Offered if procedure technically feasible, regardless of centimeters of dilation | – | 40 (51.9) |
| Presentations of amniotic membrane prolapse  |  |  |
|  ≤50% into cervical canal  | 21 (17.9) | – |
|  > 50% into cervical canal | 2 (1.7) | – |
|  Not beyond external os | 38 (32.5)  | – |
|  No limit | 22 (18.8) | – |
|  No degree of amniotic membrane prolapse is a contraindication | 21 (17.9) | – |
|  Other | 13 (11.1) | – |
|  Offered if procedure technically feasible, regardless of amount of membrane prolapse | – | 62 (80.5)  |
| Postpone cerclage, in absence of clinical contractions, after presentation with a dilated cervix |  |  |
|  Routinely wait 12-24 h | 36 (30.8) | 41 (53.2) |
|  Routinely wait for testing to rule out infection and inflammation | 25 (21.4) | 55 (71.4) |
|  Do not wait and offer after counselling | 43(36.8) | – |
|  Unsure | 4 (3.4) | – |
|  Other | 9 (7.7) | – |
| **Amniocentesis** |  |  |
| Perform in women requiring cerclage with dilated cervix  |  |  |
|  Routinely offered  | 20 (17.1) | 20 (26.0) |
|  Do not routinely offer | 75 (64.1) | 57 (74.0) |
|  Recommend but not essential | 16 (13.7) | – |
|  Other | 6 (5.1) | – |
| Twin selection  |  |  |
|  Presenting twin  | 25/36 (69.4) | 16/20 (80.0) |
|  Both twins | 10/36 (27.8) | – |
|  Unsure | 1/36 (2.8) | – |
| Amniocentesis sample testing\* |  |  |
|  Gram stain  | 35/36 (97.2) | 20/20 (100.0)† |
|  White cell count | 30/36 (83.3) |
|  Glucose level  | 33/36 (91.7) |
|  Other inflammatory markers, such as interleukin | 8/36 (22.2) | – |
|  Unsure  | 1/36 (2.8) | – |
|  Other | 9/36 (25.0) | – |
| **Indomethacin** |  |  |
| Perioperative use with dilated cervix undergoing cerclage  |  |  |
|  Routinely offer | 79 (67.5) | 64 (83.1) |
|  Do not routinely offer | 27 (23.1) | – |
|  Offer another tocolytic | 3 (2.6) | – |
|  Unsure  | 1 (0.9) | – |
|  Other | 7 (6.0) | – |
| Dosage |  |  |
|  25 mg indomethacin, THREE times a day for 24-48 hours  | 9/79 (11.4) | – |
|  50 mg indomethacin, THREE times a day for 24-48 hours | 23/79 (29.1)  | – |
|  Loading dose of 100 mg followed by 25-50 mg, THREE times a day for 24-48 hours | 28/79 (35.4)  | – |
|  Unsure | 3/79 (3.8) | – |
|  Other | 16/79 (20.3) | – |
| **Antibiotics** |  |  |
| Intraoperative antibiotics  |  |  |
|  Routinely offered | 82 (70.1) | 69 (89.6) |
|  Do not routinely offer | 24 (20.5) | – |
|  Unsure  | 3 (2.6) | – |
|  Other | 8 (6.8) | – |
| Post-operative antibiotics |  | – |
|  Routinely offered | 36 (30.8) |  |
|  During first 24 hour post-operative period | – | 40 (51.9) |
|  More than the 24 hour post-operative period  | – | 19 (24.7) |
|  Do not routinely offer | 73 (62.4) | 52 (67.5) |
|  Unsure  | 4 (3.4) | – |
|  Other | 4 (3.4) | – |
| Postoperative antibiotic choice (no known allergies)\* |  |  |
|  Clindamycin | 9/36 (25.0) | – |
|  Cephalosporin | 19/36 (52.8) | – |
|  Gentamicin | 5/36 (13.9) | – |
|  Azithromycin  | 10/36 (27.8) | – |
|  Unsure | 7/36 (19.4) | – |
| **Vaginal progesterone following cerclage** |  |  |
|  Yes, routinely recommended | 41 (35.0)  | 32 (41.6) |
|  No, not routinely recommended | 48 (41.0)  | – |
|  Offer the patient option of vaginal progesterone | 21 (17.9) | – |
|  Unsure  | 3 (2.6) | – |
|  Other | 4 (3.4) | – |
| Dose and formulation |  |  |
|  Natural 400 mg, TWICE a day | 7/62 (11.3) | – |
|  Natural 400 mg, ONCE a day | 16/62 (25.8) | – |
|  Natural 200 mg, TWICE a day | 6/62 (9.7) | – |
|  Natural 200 mg, ONCE a day | 32/62 (51.6) | – |
|  Unsure | 1/62 (1.6) | – |
| **Steroids** |  |  |
|  Yes, routinely for everyone | 4 (3.4) | – |
|  Yes, routinely, but only after 22 weeks’ gestation | 16 (13.7) | – |
|  Yes, routinely, but only after 23 weeks’ gestation | 21 (17.9) | – |
|  Yes, routinely, but only after 24 weeks gestation  | 17 (14.5) | – |
|  Individualised plan considering the estimated fetal weight and gestational age with the neonatal team | 30 (25.6) | – |
|  Only if indication for delivery or symptoms or signs of impending preterm delivery | 24 (20.5) | – |
|  Unsure  | 2 (1.7) | – |
|  Other | 3 (2.6) | – |
|  Yes, routinely based on viability definition of that institution  | – | 56 (72.7) |
|  Yes, routinely for a certain gestational age regardless of viability definition of that institution  | – | 15 (19.5) |
| **Management of cervical cerclage** |  |  |
|  Remain as an in-patient until delivery | 0 (0) | – |
|  Manage as out-patient | 25 (21.4) | – |
|  Keep in the hospital for observation for 12-24 hours; if a stable discharge | 81 (69.2) | 65 (84.4) |
|  Unsure | 2 (1.7) | – |
|  Other | 9 (7.7) | – |
| Follow up of routine CL measurements  |  |  |
|  Yes, routinely, before 28 weeks | 32 (27.4) | 39 (50.6)† |
|  Yes, routinely, before 24 weeks | 17 (14.5) |
|  Yes, if symptomatic  | 11 (9.4) | – |
|  No, not routinely | 49 (41.9) | – |
|  Unsure | 1 (0.9) | – |
|  Other | 7 (6.0) | – |
| Cerclage technique\* |  |  |
|  McDonald technique  | 100 (85.5) | 62 (80.5) |
|  Shirodkar technique | 28 (23.9) | – |
|  Unsure | 3 (2.6) | – |
|  Other | 5 (4.3) | – |
| Measures to reduce risk of intraoperative rupture of membranes\* |  |  |
|  Cervical foley catheter | 86 (73.5) | 73 (94.8)† |
|  Trendelenburg position | 97 (82.9) |
|  Backfilling the bladder | – |
|  None | 5 (4.3) | – |
|  Unsure | 3 (2.6) | – |
|  Other | 15 (12.8) | – |
| Suture\* |  |  |
|  Monofilament suture material, such as Ethilon (Ethicon®) | 59 (50.4) | 56 (72.7) |
|  Braided suture material, such as Ethibond® | 49 (41.9) | – |
|  Other | 16 (13.7) | – |
| Cerclage removal\* |  |  |
|  35 weeks’ gestation | 14 (12.0) | – |
|  36 weeks’ gestation | 65 (55.6) | – |
|  37 weeks’ gestation | 30 (25.6) | – |
|  One week before planned vaginal delivery | 20 (17.1) | – |
|  36-37 weeks’ gestation if planned vaginal delivery | – | 76 (98.7) |
|  At the time of cesarean section  | 45 (38.5) | 70 (90.9) |
|  Other | 7 (6.0)  | – |
| Routine removal of cerclage without delay in women presenting with rupture of membranes, with no evidence of infection, bleeding or contractions |  |  |
|  Yes | 32 (27.4) | – |
|  No | 66 (56.4) | – |
|  Unsure | 2 (1.7) | – |
|  Other  | 17 (14.5) | – |
| Indications for cerclage removal\* |  |  |
|  Ruptured membranes | 40 (34.2) | – |
|  Chorioamnionitis | 108 (92.3) | 77 (100.0)† |
|  Signs of intrauterine infection  | 104 (88.9) |
|  Contractions concerning for labor (not resolved with hydration and tocolysis or presence of progressive cervical dilatation) | 102 (87.2) |
|  Abnormal vaginal discharge | 36 (30.8) | – |
|  Vaginal bleeding (with no evidence of abruption) | 57 (48.7) | 34 (44.2) |
|  Unsure | 1 (0.9) | – |
|  Other | 1 (0.9) | – |
| Extrapolation of management strategies to triplet pregnancies  |  |  |
|  Yes | 54 (46.2) | 51 (66.2) |
|  No | 41 (35.0) | – |
|  Unsure | 20 (17.1) | – |
|  Other | 2 (1.7) | – |
| Treatment of singleton pregnancy defined as high-risk for preterm birth, following previous twin pregnancy requiring physical examination-indicated cerclage |  |  |
|  Yes, offer prophylactic cerclage | 12 (10.3) | – |
|  Yes, offer natural progesterone | 15 (12.8) | – |
|  Yes, offer both prophylactic cerclage and natural progesterone to choose from | 17 (14.5) | – |
|  No, as she is not at increased risk of preterm birth as she has a singleton pregnancy  | 32 (27.4) | – |
|  Unsure | 8 (6.8) | – |
|  Other | 33 (28.2) | – |
|  Manage current pregnancy as high-risk for preterm birth | – | 64 (83.1) |
|  Monitor pregnancy with cervical length assessments at 16-24 weeks gestation | – | 74 (96.1) |

Data are given as n (%) or n/N (%). Consensus was deﬁned as ≥ 70% agreement, signiﬁcant agreement as 60–69% and no agreement as < 60%. —, Item not addressed in round. \*Participants could select multiple options. †Response options combined in round 2 question. CL, cervical length; PTB, preterm birth; TAS, transabdominal ultrasound; TVS, transvaginal ultrasound.