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of these catheters and the importance of strict insertion principles.[25] It was reported that CVC with their tips in the right atrium and not coiled did not lead to pericardial effusion.

The rate of catheter induced sepsis were higher in our study (50%); though, the organisms causing infection were almost similar to other studies Therfore, we must improve our catheter care. The catheter- related sepsis increased incidence is also due to poor nurse- neonate ratio (1: 5), leading to increased cross contamination risk. In various reports, catheter-related infections vary from 0- 46%.[26][27] In extremely low birth weight babies with CVCs, we have reports about using of fluconazole to decrease fungal colonization and septicemia.[28] Since introduction of fungal prophylaxis candida septicemia has been decreased. The efficacy of prophylactic use of oral nystatin and fluconazole in multicenter trial in very low birth neonates (<1500 g) in preventing invasive fungal infections incidence was proved.[29]

According to the literature, CLABSI (central lines associated blood stream infection) or blood stream infection is the most common complication leading to CVC catheter removal (31- 33). Depending on the definition of CLABSI its incidence varies from 6% to 36.8%.[31] In our study, nosocomial infection incidence was (8%), and our CLABSI incidence, when it was defined according to the CDC/ National Health care Safety Network (NHSN) definition, was lower (3%).[33] Literature show that the use of impregnating or coating CVC with anti- infective agents, including antiseptics and antibiotics, decrease CLABSI in adults and children receiving intensive care, however for babies receiving neonatal intensive care there is a paucity of similar evidence.[32][33] Shalabi M. et.al.[34] reported an increased rate of LOS after a median period of 5 days with the use of UVCs in preterm infants and an alternative venous access is usually needed after UVC removal. In our study, inspite of a longer UVC indwelling time (4- 20) days, CLABSI incidence was 3% with no statistical difference compared to use of CVC which was 3.2%. Mal-position of CVC and UVCs complications although rare, may lead to life threatening complications. Displacement of CVC can lead to pleural effusion or perforation of the vessel, etc. (35- 37). On the other hand, displacement of a UVC out of the IVC may cause liver injury (causing elevated liver enzymes), portal hypertension, hepatic necrosis, or effusions (38- 40). Heart and lung injuries, ranging from transient edema to pulmonary hemorrhage, and pleural or pericardial effusion may be caused by deep placement of the catheters.[41][42] Fortunately, in our study no such complications were recorded. The complications incidencewas similar to those described in the literature, such as edema, erythema, and obstruction for CVC and thrombosis for UVCs.[32] It is important to note the difference in tip colonization rates between the CVC and UVC catheters< 0.05 though it did not cause clinical deterioration to the neonates. We have no convincing interpretation to explain this difference. The umbilical stumpcolonization by microorganisms[31] after the first days of life and the long UVC indwell time may give an explanation. The frequently isolated micro- organisms were several types staphylococci (57%). Cronin et.al.[43] described intravascular tip colonization in critically ill neonates, in relationship to device used type and found 14% of UVCs colonized. This UVC tip colonization rate is the same, compared to ours which was 14%, probably due to long UVC indwelling time. Our study showed statistically significant difference between CVC and UVC groups according to CNS manifestation of sepsis, Klebsiella sepsis and thrombocytopenia in CVC group, Infective endocarditis with enterococci more with UVC group. Our study also showed statistically significant difference between groups according to ultrasound findings which are decrease bowl motility and low mesenteric blood flow which are more affected in UVC group. The long CVC and UVC in dwell time could probably give an explanation. This study shows statistically significant difference between groups according to outcome prognosis which is better in UVC group. Unfortunately, there was no similar papers in the literature comparing CVC with UVC. Except from the above mentioned difference, overall complication rate was the same for the two groups. The most important limitations of this study are the small, one center sample size. On the other hand, a single center data and the insertion procedure incomplete data might affect the complication rate.

Conclusions:

Our results show a high incidence of CVC side effects which can significantly impact patient outcomes. Prevention of CVC's complications is an important goal in neonates in NICU. Further researches should be held to confirm our results and decrease CVC complications. Researches to investigate the risk factors for CVC complications and intervene to reduce risk factors incidence should be held first. An important goal for neonatologists and nurses in NICUs should be removal of the CVCs at the earliest possible time. The most common adverse events of UVC are malposition and migration so the need for routine catheter tip observation should be considered in NICUs.

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Much more smaller and premature babies survive in recent years because of neonatal care advances and these neonates are small enough to require OSC.[9][10]

In this study, the first and only choice to do the OSC in our NICU was Rt. IJV as it is easier and has fewer complications when compared with the subclavian or femoral veins.

Right internal jugular vein (IJV) was used by Chait et.al.[11] for the same reasons attempting to insert CVA lines through Rt IJV even if IJV had stenosis or partial thrombosis. In our study, we detected clearly the Rt. IJV and performed venotomy carefully to prevent injury to any structures. Alderson et.al identified that children younger than 6 years of age about 18% of them have anatomical factors that caused complication to cannulate Rt. IJV by the classic LT. They detected that IJV in 10% of infants over laid the common carotid artery, Rt IJV was small in 4%, ran lateral in 2%, and could not be identified in 2%.[12]

Also, positioning maneuvers which is rotation of the head to the contralateral side would cause overlapping the IJV of the common carotid artery, and flattening the IJV and also decrease the distance between the carotid artery and the IJV.[13] LT for CVA is more difficultin children than adults due to small diameter of IJV in infants which increase the attempts number leading to changing in puncture points and the needle insertion depth and increasing complications including pneumothorax or carotid artery injury.[14]

In our study, the overal success rate was 100% because there were no multiple attempts to puncture the vein and no puncture of other structures. Verghese et.al.[15] reported that successful cannulation rate was 81% for (LT) and successful cannulation need few attempts and few accidental carotid punctures. However, Grebenik et.al.[16] reported that successful cannulation rate for LT 89% and multiple trials of LT technique to insert CVA required leading to complications as hematoma formation which induce IJV changes or cause external compression, so its access became more difficult.[14] Malbezin et.al.[17] cohort of 5434 patients reported using landmark technique the success rate occurred in 99.5% with a complication rate of 1.3% perioperative. Araujo et.al.[18] reported using landmark technique failure rate was 10.8%, Grebenik et.al.[19] reported the same failure rate during comparison of landmark technique and ultrasound- guided. Both these studies were performed on smaller children, mean weights were 5.8 and 9 kg in these studies respectively, while 19 kg in Malbezin et.al.[17] study. McGee and Gould[30] reviewed CVC complications and found that the incidence of mechanical complications after 3 or more insertion attempts was 6 times the rate after one attempt.

In our work, we inserted CVC as a bedside procedure in 50 neonates by sedation and local analgesia. This was identical to Hong et.al.[20] who reported doing central venous cut down in neonates as a bedside procedure without general anesthesia.

In our work, venous thrombosis rate was 0%. We properly visualized the vein before and during venotomy; thus, we don't need multiple punctures. Koksoy et.al.[21] reported 40% venous thrombosis rate after LT and this was associated with increasing the need for multiple punctures. Barnacle and colleagues, reported that the venous thrombosis rate after OSC 33%. due to the need for multiple punctures and so prope rvein visualization before and during cannulation reduced rate of venous thrombosis.[22]

In our work, we encountered no complications such as hematoma, pleural effusion or pneumothorax and also avoids carotid artery or related nerves accidental punctures. Malbezin et.al.[17] reported 0.1% hemothorax and pneumothorax rates. Arul et.al.[23] reported in 500 IJV CVC no hemothorax or pneumothorax. In most literatures, pneumothorax and hemothorax rates are reported 1- 2%.[2][3] Following reports of subclavian CVC insertions complications in children internal jugular vein CVC was targeted. Also, high risk subclavian veins thrombosis in children were reported.[17] So, it isessential to target extra- thoracic veins because the safety margin is higher. In a large series of CVC of 5434 children, they reported that CVC was the cause of catastrophic event of death in two cases, which occurred post procedure within 30 days. The first baby reported to have multiple organ failure and died from cardiorespiratory failure with hemothorax 48 hour after CVC. The second reported that he suffered from ASD and intestinal atresia since birth and submitted to bowel resection with CVC on the first day of life. The CVC obvious tunnel infection was reported on day 12 and CVC was removed. Over whelming staphylococcal sepsis was reported and on day 13 the patient died.[24] In our study, 4 reported cases of deaths with CVC who were suffering from multiple organ failure and died from cardiorespiratory failure.

In our study, CVC length of insertion was measured according to the equation; the length of insertion (cm)= (height in cm/10)- 1 for children ≤ 100 cm in height, and (height in cm/10)- 2 for children >100 cm in height as mentioned by Kayashima et.al.[17] and all patients with CVC do post-insertion chest x- ray to measure CVC insertion depths and to detect any complications like hemothorax or pneumothorax.

In the literatures regarding IJV diameter and its relation age, height, or weightno recommendations exist. Some literatures described a relationship between IJV diameter and height, weight, age, and body surface area in children. However, practically the IJV diameter was poorly predicted by patient age. However, it is reported that the risk of catheter complications increased when using 6 Fr/2 mm CVCs below 1 year of age. Malbezin et.al.[11] reported a protocol for CVC diameters according to child weight, and they described that this protocol is empirical.

In the present study, the CVC diameter was chosen according to patient weight, by the using the following: children< 3 kg: 3 French catheter size, children> 3: 4 Fr catheter size. The same protocol as reported by Malbezin et.al.[11] and we detected it very easy with less complications so the relation between CVC size and vein size was appropriate in most cases. Select the proper size and length of the catheter is very important because it prevent avoidable complications. Large series from Royal Brisbane Hospital (RBH), Australia have mentioned the safety

Statistical Analysis:

Recorded data were analyzed using the statistical package for social sciences, version 20.0 (SPSS Inc., Chicago, Illinois, USA). Quantitative data were expressed as mean± standard deviation (SD). Qualitative data were expressed as frequency and percentage. The following tests were done; Independent samples t- test of significance was used when comparing between two means, Chi- square (x^2) test of significance was used in order to compare proportions between qualitative parameters. The confidence interval was set to 95% and the margin of error accepted was set to 5%. So, the p- value was considered significant as the following probability (P-value); P- value< 0.05 was considered significant, P- value< 0.001 was considered as highly significant, and P- value> 0.05 was considered insignificant.

Results:

Table (1) Comparison between Central Venous Cut Down and Umbilical Venous Catheter according to sex

Sex	Central Venous Cut Down (n= 50)		Umbilical Venous Catheter (n= 50)		Chi- Square Test	
	No.	%	No.	%	x^2	P- Value
Female	21	42.0%	16	32.0%	1.073	0.300
Male	29	58.0%	34	68.0%		

This table shows no statistically significant difference between groups according to sex.

Table (2) Comparison between Central Venous Cut Down and Umbilical Venous Catheter according to GA (wks), Wt. (kg) and Central days

		Central Venous Cut Down (n= 50)	Umbilical Venous Catheter (n= 50)	T- Test	
				T	P- Value
GA (Wks)	Mean±SD	34.88±3.09	33.94±3.24	1.485	0.141
	Range	27- 40	30- 38		
Wt. (Kg)	Mean±SD	2.12±0.71	1.94±0.42	1.543	0.126
	Range	1- 3.5	1.13- 2.65		
Central Days	Mean±SD	14.88±4.95	14.70±3.33	1.399	0.165
	Range	4- 27	4- 20		

This table shows no statistically significant difference between groups according to GA, Wt, and central days.

Table (3) Comparison between group A and group B according to success rate

Success Rate	Group A (N= 50)	Group B (No= s50)	x^2	P- Value
Successful	50 (100%)	50 (100%)	3.368	3.368
Failed	0 (0%)	0 (0%)		

This table shows no statistically significant difference between groups according to success rate.

Table (4) Comparison between Central Venous Cut Down and Umbilical Venous Catheter according to sepsis

Sepsis	Central Venous Cut Down (n= 50)		Umbilical Venous Catheter (n= 50)		Chi- Square Test	
	No.	%	No.	%	x^2	P- Value
CNS	7	14.0%	0	0.0%	7.527	0.006*
Feeding Intolerance	2	4.0%	0	0.0%	2.041	0.153
Arthritis	2	4.0%	0	0.0%	2.041	0.153
Klebsiella	12	24.0%	0	0.0%	13.636	<0.001**
E Coli	8	16.0%	3	6.0%	1.515	0.218
Staph	2	4.0%	4	8.0%	0.709	0.400
Systemic	3	6.0%	0	0.0%	3.093	0.079
Candida In Central Line	2	4.0%	0	0.0%	2.041	0.153
Infective Endocarditis Enterococci	0	0.0%	15	30.0%	17.647	<0.001**
Thrombocytopenia	5	10.0%	0	0.0%	5.263	0.022*
PROM	3	6.0%	0	0.0%	3.093	0.079
Enteropathy	3	6.0%	0	0.0%	3.093	0.079

This table shows statistically significant difference between groups according to CNS, Klebsiella, Culture, Infective endocarditis enterococci and Thrombocytopenia.

Table (5) Comparison between Central Venous Cut Down and Umbilical Venous Catheter according to ultrasound

Ultrasound	Central Venous Cut Down (n= 50)		Umbilical Venous Catheter (n= 50)		Chi- Square Test	
	No.	%	No.	%	x^2	P- Value
Decrease Bowl Motility	0	0.0%	4	8.0%	16.649	0.002*
Hepatomegaly- Entropthy- Nephropathy	0	0.0%	4	8.0%		
Low Mesenteric Blood Flow	4	8.0%	12	24.0%		
None	46	92.0%	30	60.0%		

This table shows statistically significant difference between groups according to ultrasound.

Table (6) Comparison between Central Venous Cut Down and Umbilical Venous Catheter according to outcome

Outcome Prognosis	Central Venous Cut Down (n= 50)		Umbilical Venous Catheter (n= 50)		Chi- Square Test	
	No.	%	No.	%	x^2	P- Value
Died	4	8.0%	0	0.0%	4.167	0.041*
Living	46	92.0%	50	100.0%		

This table shows statistically significant difference between groups according to outcome prognosis.

Discussion:

There were few studies comparing different methods of insertion of central venous line. Literature have reports about Cannulation failure and traditional landmark technique (LT). A lot of pediatric surgeons prefer use open surgical cut down (OSC) although literature have few studies about (OSC) and also pediatric surgeons who are interested in using LT prefer OSC in small babies requiring central venous access.[17]

In recent years, the need for invasive OSC have been markedly reduced due to the success of peripherally introduced central catheters.

- Then, we split the sternomastoid muscle 2 heads to visualize IJV.[19][20]
- We dissected the IJV& passed a curved mosquito behind IJV, applied proximal and distal ligatures of (4- 0) absorbable suture loosely around the vein (without twisting the vein as advancing the suture)[19][20]
- Then, creating subcutaneous tract far enough from incision site.[19][20]
- Introducing a mosquito through the tunnel, grasping the catheter end& guiding the catheter through the subcutaneous tract.[19][20]
- Then, filling the catheter with heparinized saline. We used needle puncture technique (this avoids vein ligation& purse- string suture repair)[19][20]
- Then, gently grasping the vein by a non- toothed forceps and introducing the catheter inside the vein through the vein puncture site.[19][20]
- Closing the wound with (4- 0) absorbable suture.
- Fixing the catheter with multiple stitches to the skin and applying a sterile dressing.[19][20]
- Estimating the length of the catheter insertion by using the following equation according to patient height: Length of catheter insertion (cm)= (height in cm/10)- 1 for patients ≤ 100 cm in height, and (height in cm/10)- 2 for patients≥ 100 cm in height.[19][20]

b. Evaluation and followup: Applying dressing in all cases. Connecting a three- way adaptor to the intravenous catheter. Confirming the position of catheter by a chest X- ray, which should be in the SVC, outside the cardiac reflection and above the T2 vertebra. Inspect catheter daily for occlusion and leakage and follow up of vital signs especially temperature, CVC local sign of inflammation (tenderness, hotness, swelling and redness), CVC local signs of infection (the presence of pus, discharge, enlarged lymph node), developing of endocarditis.[19][20]

2. Group (B) Umbilical vein catheterization:

a. Indications for UVC placement: In our NICU included exchange transfusions, infusion therapy, intravenous drug therapy, nutrition (intravenous hyper alimentation), blood sampling and CVP monitoring.

b. Assessment Of UVC Location: In our NICU, we do a pre-assessment of UVC location prior to insertion by insertion length prediction using Shukla formula (umbilical artery catheter (UAC) length= 3× body weight (BW)+ 9; UVC length= 1/ 2× UA line calculation+ 1; measuring lengths in centimeters and BW in kg.[12][13]

After placing UV catheter, confirm the catheter tip location was routinely by anteroposterior chest and abdominal radiography, the vertebral level and diaphragm are used as anatomical landmarks. The target place of UVC tip was above the diaphragm and at T9 level.[13][14][15]

Serial radiographs were done to patients with UVC placement to assess the place of the catheter tip. The T9 level was higher than the diaphragm, this was dependent on anatomical position and our observations in neonates. A proper position of UVC tip was present above the diaphragm and between T8 and T9 on X ray.[16][17] An improper position of UVC tip was present below T9 or above T8. Perform routinely radiography after UVC insertion to assess the catheter tip location and adjust UVC displacement to proper position according to the measurement on the radiograph.

During and after procedure follow aseptic precaution. Note the need for repositioning, reattempts, periumbilical erythema, umbilical bleeding, umbilical site leak and catheter block untill the UVC removal. Look for CRBSI by sending catheter tip and a simultaneous peripheral blood sample for culture. Neonatal treatment was based upon the clinical condition and culture sensitivity reports.[16]

c. Following data were recorded for all patients in both groups:

- Demographic data: age, sex, weight, height, venous thrombosis, preoperative investigations for great vein patency and previous central venous catheterization.
- CVC data: type, external diameter, the vein into which the CVC was inserted, indication for insertion, and whether or not it was a reinsertion.
- Catheterization success rate: In venous cut- down group, success rate was defined as ability to visualize, located and cannulate the vein. (Penetration of carotid artery was recorded as a failure).
- Number of attempts: For CVC insertion.
- Venous access time: It was the time from the procedure starting to the return of dark colored venous blood into the attached syringe, not including suturing, fixation of catheter and dressing time.
- Catheterization time: It was the time from the procedure starting to the end of catheter placement, including the time of suturing and fixation.
- Technical feasibility: It was clinical experience with the procedure steps of CVC recorded as easy or difficult and its percentage.
- Complications: Cannulation failure, Malposition of the catheter, Hematoma at site of insertion, Arterialpuncture, Pneumothorax, Hemothorax, right atrial perforation and Cardiac arrhythmias.
- Post- procedure chest x- ray: To confirm the position of the catheter tip and detect complications which were managed according to the standard protocol.

Introduction:

In the pediatric patients the need of vascular accessis frequent.[1] There were more access routes described as umbilical vein catheters (UVCs) and umbilical artery catheters (UACs). Internal jugular vein (IJV), subclavian vein, femoral vein and peripheral veins leading to central accessare different sitesfor (CVCs) insertion.[2]

CVC is a catheter inserted into a large vein. CVC called as a central venous line, central line, or central venous access catheter. Catheters placed in chest veins (subclavian vein or axillary vein), in neck (internal jugular vein), arm veins (called PICC or peripherally inserted central catheters), or groin veins (Femoral Vein). CVC used to give medication or fluids that can't be taken by mouth or harm peripheral vein, measure CVP and obtain blood tests.[4]

Since 1947, (UVC) can be used[5] in ill neonates for intravenous fluid infusion, blood products and medications through rapid central venous access with proper placement of UVC to prevent complications.

The ideal catheter tip position (upper border of T8- T9 vertebral body lower border). Although it is easy to perform, UVC placement ideal position don't achieved in 31.9% of cases.[6][7]

A tip lying above T8 vertebra upper border and below T9 vertebra lower border is described as a UVC malposition that not recommended due to increase complications incidence which are thrombosis and infusate extravasation leading to increased morbidity and rarely mortality.[8]

UVC cause complications that is life threatening as portal vein thrombosis, intestinal necrosis, catheter related infections, arrhythmias, myocardial perforation, pleural and pericardial effusion.[9] According to literature, mechanical caused complications incidenceis 5 to 19%, catheter related infection incidence is 5 to 26% and thrombosis incidence 2 to 26% in neonates who undergo UVC.[9]

Knowledge and predictors of UVC complications will help in performing UVC guidelines. There are limited prospective studies on short term outcomes of UVC in neonates as catheter related blood stream infections (CRBSI) and portal vein thrombosis (PVT).[10][11] So, author conducted this prospective study in NICU to estimate the complications incidence and its risk factors.

Aim of the Study:

This prospective study is aimed to compare neonatal CVCs versus UVC regarding technical feasibility and complications.

Patients& Methods:

This is a prospective comparative study done on two methods for neonatal central line insertion. This study was done at Al- Galaa Teaching Hospital, in NICU. One hundred patients, 50 neonates who required CVCs and 50 neonates who required UVCs were included in this study, from period between August 2020 and August 2021.

- Inclusion criteria: All neonates who have central venous line insertion, All type of central venous access in IJV and umbilical veins.
- Exclusion criteria: Neonates with coagulopathy. Neonates with a previous history of neck surgery, abnormal anatomy, head and neck mass, infection or scarring at the site of insertion, skeletal deformity, or neonates with pneumothorax or hemothorax.

Neonates were subgrouped into two equal groups:

1. Group (A): Fifty neonates with surgical central venous cut- down technique.
2. Group (B): Fifty patients with UVC.

All patients were subjected to:

1. Complete history taken: Age, Sex, Cardio- respiratory status, Bleeding tendency, Indication for CVC insertion (failure of other peripheral lines or for special drugs or for the assessment of CVP), insertion time, insertion site, trials number, number of inserted CVCs during patient's hospital stay.
2. Physical Examination: Assessment of all patients for chest, cardiac, abdomen, neurological examination, pneumothorax or hemothorax uncorrected bleeding tendency, skin infection over the puncture site, skeletal deformity or scarring.
3. Pre- procedures preparation: The following was considered: Explain to the parents the procedure. Oxygen was given through the nasal cathter. ECG monitoring and connecting pulse oximetry to the patient. Local anesthesia with conscious sedation was given to the patients before the procedure. General anesthesia was given for patients in the operating room.
4. Investigations: Pre- insertion (Bleeding time BT, clotting time CT, prothrombin time PT, partial thromboplastin time PTT, international normalized ratio INR and echocardiography). Bleeding disorders should be corrected pre- insertion. Post- insertion (Complete blood count CBC, blood culture, C- reactive protein CRP and chest X- ray).
5. Technique of central venous catheterization (CVC): Perform CVC under complete aseptic environment. Monitoring (electrocardiogram ECG, and pulse oximeter) were performed to all patients during the procedure.
   1. Group (A) Surgical venous cut down technique: Venous cut down technique is used during CVC insertion in IJV, CVC diameter: Proper size of the catheter should be selected (3, 4, or 5 Fr triple-lumen catheter), at the beginning of the study CVC external diameters according patient weight were decided and unchanged: <3 kg: 3 French, >3 kg: 4 Fr.
      a. Venous cut down technique (Needle puncture):
         - The neonate position is in Trendelenburg (30°) position (head down for increasing the vein size and preventing air embolism) with turning the head slightly to the other side and putting folded towels beneath the shoulders.[19][20]
         - Assessing anatomical landmarks (sternomastoid muscle, sternal notch, and clavicle) then doing small transverse incision above the clavicle at the triangle apex (Sedillot's triangle) which is formed by the sternomastoid muscle 2 heads& the clavicle.[19][20]

Comparison of Central Venous Cut-DownVersus umbilical venous Catheterization in Neonates

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Summary

Background: Literature described many routes of venous access as umbilical vein catheters (UVCs) and central venous cut down (CVCs). They can place CVCs in different sites as femoral vein, subclavian vein, internal jugular vein (IJV), and peripheral veins leading to central access.

Objective: UVCs is compared with CVCs in neonates as regard number of insertion attempts, indications and complications.

Patients and Methods: This comparative prospective study was done at Al- Galaa Teaching Hospital in Neonatal Intensive Care Unit. We included in this study one hundred neonates, 50 neonates with CVCs and 50 neonates with UVCs, from period between August 2020 and August 2021.

Results: The present study reported that a high incidence of CVC side effects which can significantly impact patient outcomes. Our study also showed ultrasound findings which are decrease bowl motility and low mesenteric blood flow which are more affected in UVC group and showed significant difference between two groups. This study shows statistically significant difference between groups according to outcome prognosis which is better in UVC group. Unfortunately, no similar papers in the literature comparing CVC with UVC could be reached.

Conclusion: Prevention of CVCs complications in NICU should be an important goal. Further research would be held to confirm our results and decrease the CVCs complications. An important goal for neonatologists and nurses in NICUs should be removal of the CVCs at the earliest possible. Malposition and migration of UVC Catheter are the most common complications so routine catheter tip observation should be considered in NICUs.

Keywords: Central Venous Cut- Down, Umbilical Venous Catheterization, Neonates and Infants.

مقارنة بين القسطرة الوريدية المركزية وقسطرة السره الوريدية عند الاطفال حديثى الولاده

الخلفية: وصفت الكتب العديد من طرق الوصول الوريدى مثل قسطره الوريد السرى وقسطره القطع الوريدى المركزى. يمكنهم وضع القطع الوريدى المركزى فى اماكن مختلفه مثل الوريد الفخذى، الوريد تحت الترقوه، الوريد الوداجى الداخلى والاورده الطرفيه التى تؤدى الى الوصول المركزى.

الهدف: مقارنه قسطره الوريد السرى وقسطره القطع الوريدى المركزى فيما يتعلق بعدد محاولات الادخال والمضاعفات.

المرضى والطرق: هذه الدراسه المرتقبه اجريت بوحده اطفال حديثى الولاده بمستشفى الجلاء التعليمى. اشتملت هذه الدراسه ١٠٠ طفل حديثى الولاده، ٥٠ طفل حديثى الولاده بقسطره القطع الوريدى المركزى و٥٠ طفل بقسطره الوريد السرى فى الفتره من اغسطس ٢٠٢٠ الى اغسطس ٢٠٢١.

النتائج: ذكرت الدراسه الحاليه حدوث اثار جانبيه بنسبه عاليه لمجموعه قسطره القطع الوريدى المركزى التى تؤثر على نتائج المرضى. وأظهرت دراستنا ايضا نتائج الموجات فوق الصوتيه وهى قله حركه الامعاء ونقص مرور الدم التى تحدث بنسبه عاليه فى مجموعه قسطره القطع الوريدى المركزى اكثر من مجموعه قسطره الوريد السرى. واظهرت هذه الدراسه نتائج مرضى افضل فى مجموعه قسطره الوريد السرى. لا يوجد دراسه مشابهه لهذه الدراسه تقارن قسطره القطع الوريدى المركزى مع مجموعه الوريد السرى.

الاستنتاجات: لابد ان نجعل منع مضاعفات قسطره القطع الوريدى المركزى هو الهدف الرئيسى لوحده الرعايه المركزه حديثى الولاده. لابد من عمل دراسات اخرى لاثبات صحه نتائج هذه الدراسه ولتقليل مضاعفات قسطره القطع الوريدى المركزى. اهم هدف لاطباء وتمريض وحده الرعايه المركزه حديثى الولاده هو خلع قسطره القطع الوريدى المركزى بدرى كلما امكن. يعد سوء وضع قسطرة الوريد السرى وانتقالها من أكثر المضاعفات شيوعا، لذا يجب الملاحظة الروتينية لطرف القسطرة فى وحدات العناية المركزة لحديثى الولادة.