STORMY DENGUE
with “bloody” problems

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HISTORY

- 4 ½ years girl
- Day 1: Fever, Lethargy, Low urine output
- Hypotension, high PCV ,low platelets
  Treated as severe dengue at referring hosp
- Day 3: Shock persisted despite fluids
- pale with respiratory distress
  desaturations with drop in PCV, malena
  Pleural tap done, blood products given
- Apollo Transport Team

.

CONDITION AT REFERRAL HOSP

- Sick looking, stupurous, bleeding from nose and mouth, and edematous
- Cardiorespiratory Failure:

  RR 60-70/min, severe retractions, nasal flaring, decreased chest movts and air entry on rt side

  Hypotensive Shock

  HR 180-190/min, poor pulse, MAP 50-55, CFT>3s

OTHER ISSUES

- Severe anemia (Hb 15 to 4 gm%)
- Active bleeding from mucosa, freq malena
- Large volume Ascites + pleural collections
- Renal failure
- Generalised anasarca

Transferred to PICU, ACH

Near Cardiac Arrest within 15 mins of arrival

- CPR done x 15 mins
- USG abdomen/Thorax- massive collection with gross midline shift
- Emergency Rt Chest ICD –320ml old + fresh blood drained

LABS ON ADMISSION

- CBC: Hb 6, pcv 18, TC 24100 ,PLT 1.27
- Na 138,K 4,Cl 100,Ca 8.3,Phos 4.4
- Urea 58 Creatinine 0.4
- PT 13/INR 1.2 APTT: 36
- LFT: T. Bili 1.2,d 0.8, T Protein 6.1,alb 3.8
- SGPT 360,
- Fibrinogen :158
- Dengue Ig M: Neg, Ig G –Positive,NS1-neg

INITIAL STABILIZATION

PICU issues

- Respiration: AC/PC :pip 22,peep 10,fio2 100%
- Circulation: adre 0.5, dobut 10
- Hypothermia: 32-33c, external rewarming
- Sepsis: iv antibiotics
- Renal- fluids, diuretics
- Neurology: posturing , phenobarb
- Metabolic: Hypoglycemia,hypokalemia

PICU issues.. Contd

Large volume, ongoing exsanguinating hemorrhage

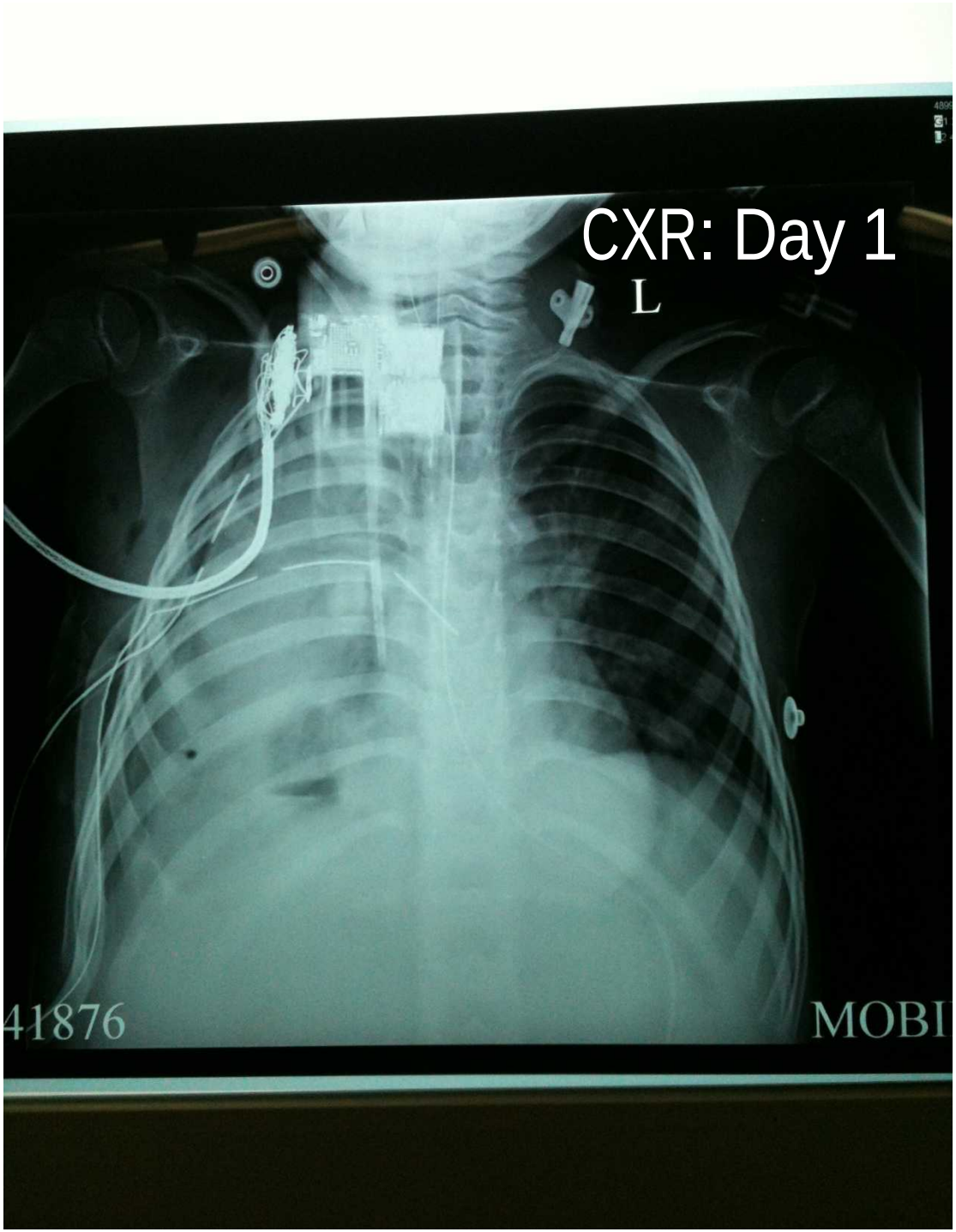
- Ongoing hemothorax with continuous oozing from ICD site
- Frank blood from ICD (500-700ml/day)
- Bleeding from GUT, iv sites
- Multiple units platelets, FFP & cryo Tranexemic acid ,Vit K, prbc transfusion,
- Suture around ICD skin

PROGRESS (Day 2-5)

Persistent right hemothorax despite maximal support

- CXR: Persistent opacity of Right hemithorax
- CT Chest :

  Extensive organising hematoma of rt pleural cavity


CXR: Day 1
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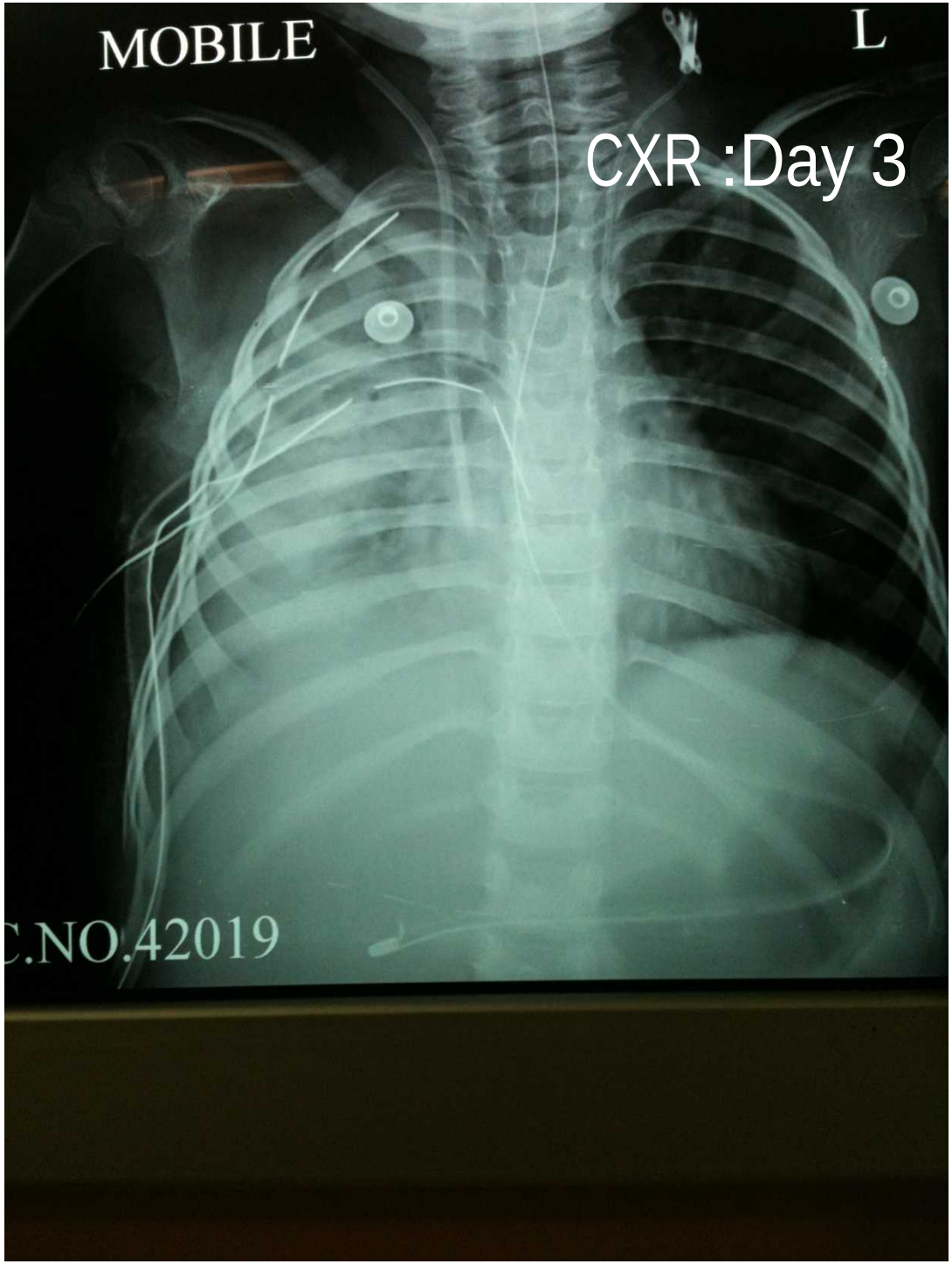
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CXR :Day 3
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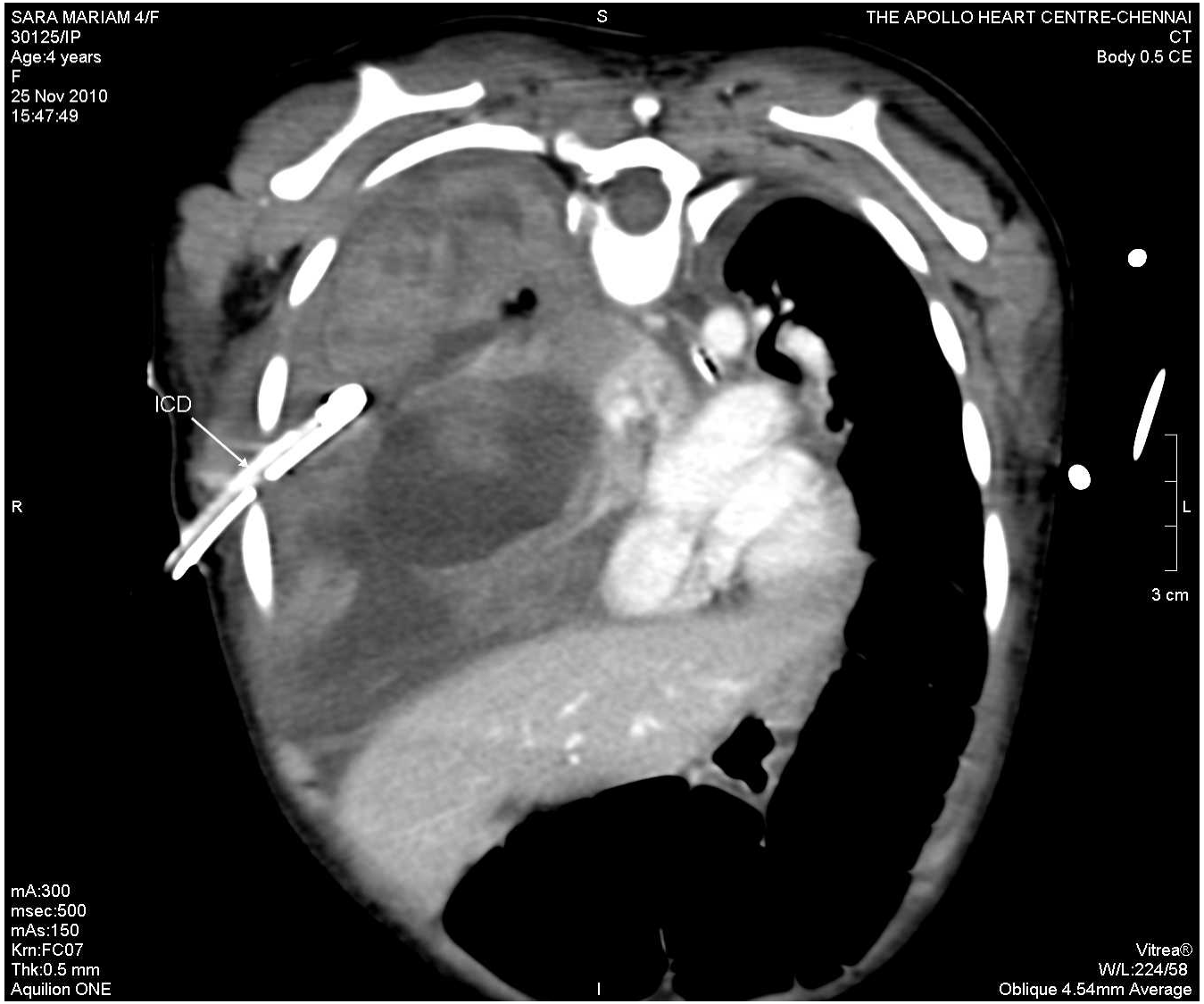
CT CHEST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30125/IP
Age:4 years
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THE APOLLO HEART CENTRE-CHENNAI
CT
Body 0.5 CE
ICD
R
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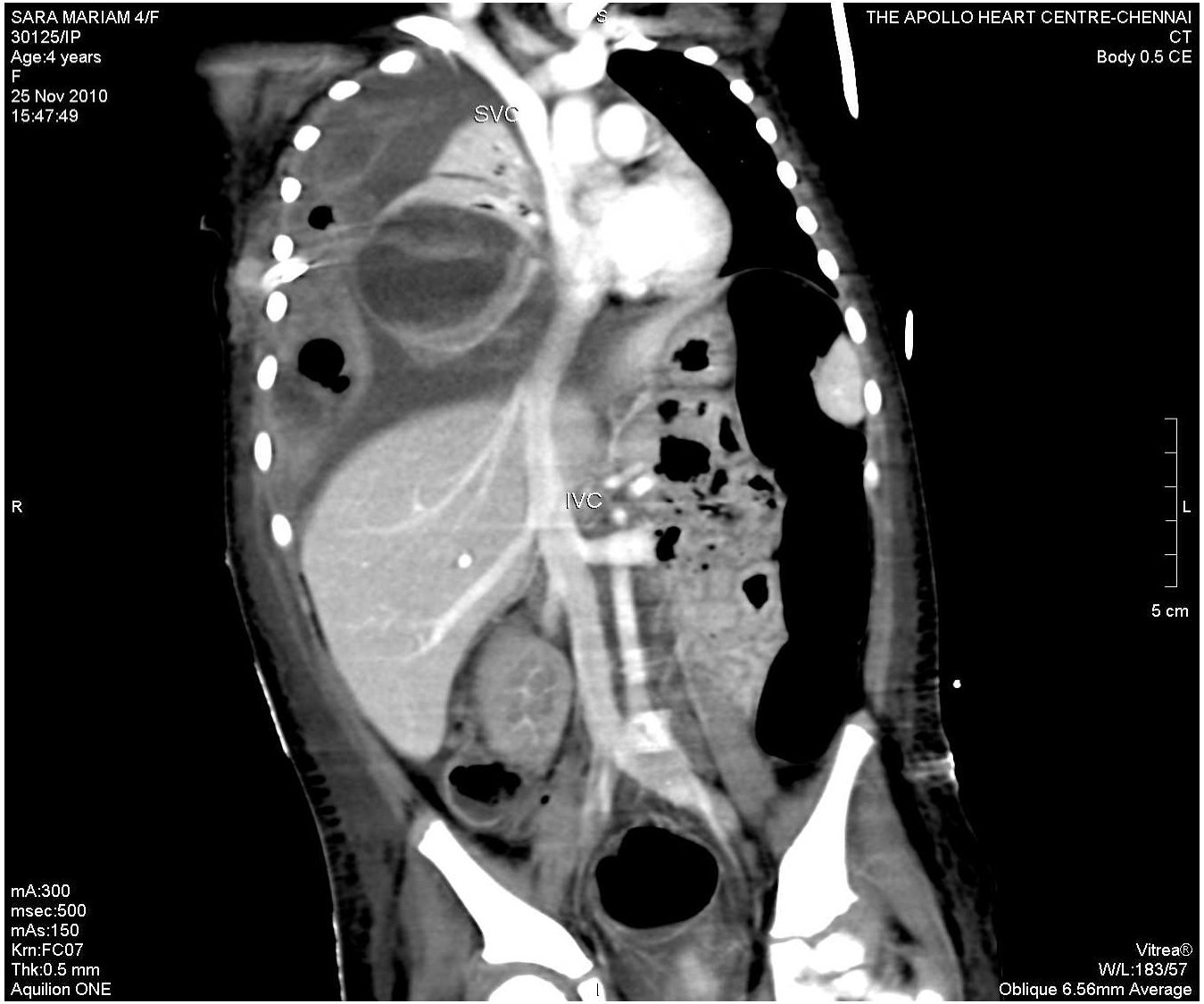
3 cm
mA:300
msec:500
mAs:150
Km:FC07
Thk:0.5 mm
Aquilion ONE
I
Vitrea®
W/L:224/58
Oblique 4.54mm Average

CT CHEST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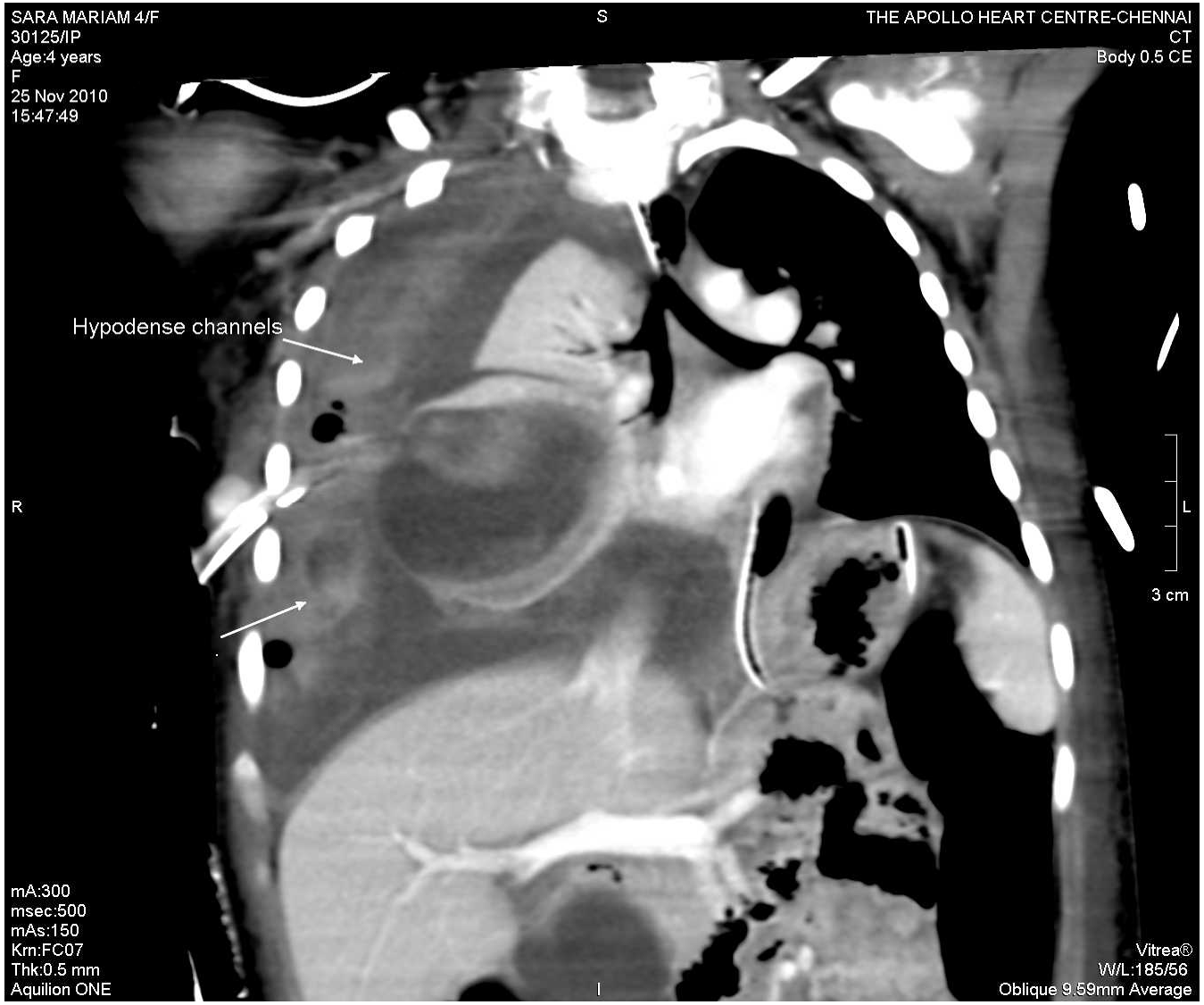
Thk:0.5 mm
Aquilion ONE
Vitrea®
W/L:183/57
Oblique 6.56mm Average

CT CHEST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Thk:0.5 mm
Aquilion ONE
I
Vitrea®
W/L:185/56
Oblique 9.59mm Average

SURGICAL REFERENCE on Day 3

- Ongoing bleeding
- Surgery postponed because of
  - Risk of death on table
  - Till correction of coagulopathy

PERSISTENT ISSUES (Day 3-5, contd)

High Ventilatory Support

Shock settling

Ongoing bleeding from multiple sites:

Chest Drains, Peritubal oozing, Mucosal bleeds

PRBC -7,FFP-3,Cryo-4,Apheresed Platelets-4

Factor VII and local pressure

Worsening urine output/renal parameters

Day 6- *Finally chest drainage decreased*

Coagulopathy corrected

However-

Organised Hemothorax remained with complete collapse of right lung and persistent mediastinal shift

WHAT NEXT

- CONSERVATIVE TREATMENT

  versus

- SURGICAL EVACUATION OF HEMATOMA
- Decrease Ventilatory support
- Risk of infection
- Evacuation rather then decortication

EVACUATION OF HEMATOMA -7TH DAY

- Operative findings:

Extensive clots and blood evacuated from rt pleural cavity (1000ml)

Bruising in intermuscular plane at old ICD site, no obvious active bleeding

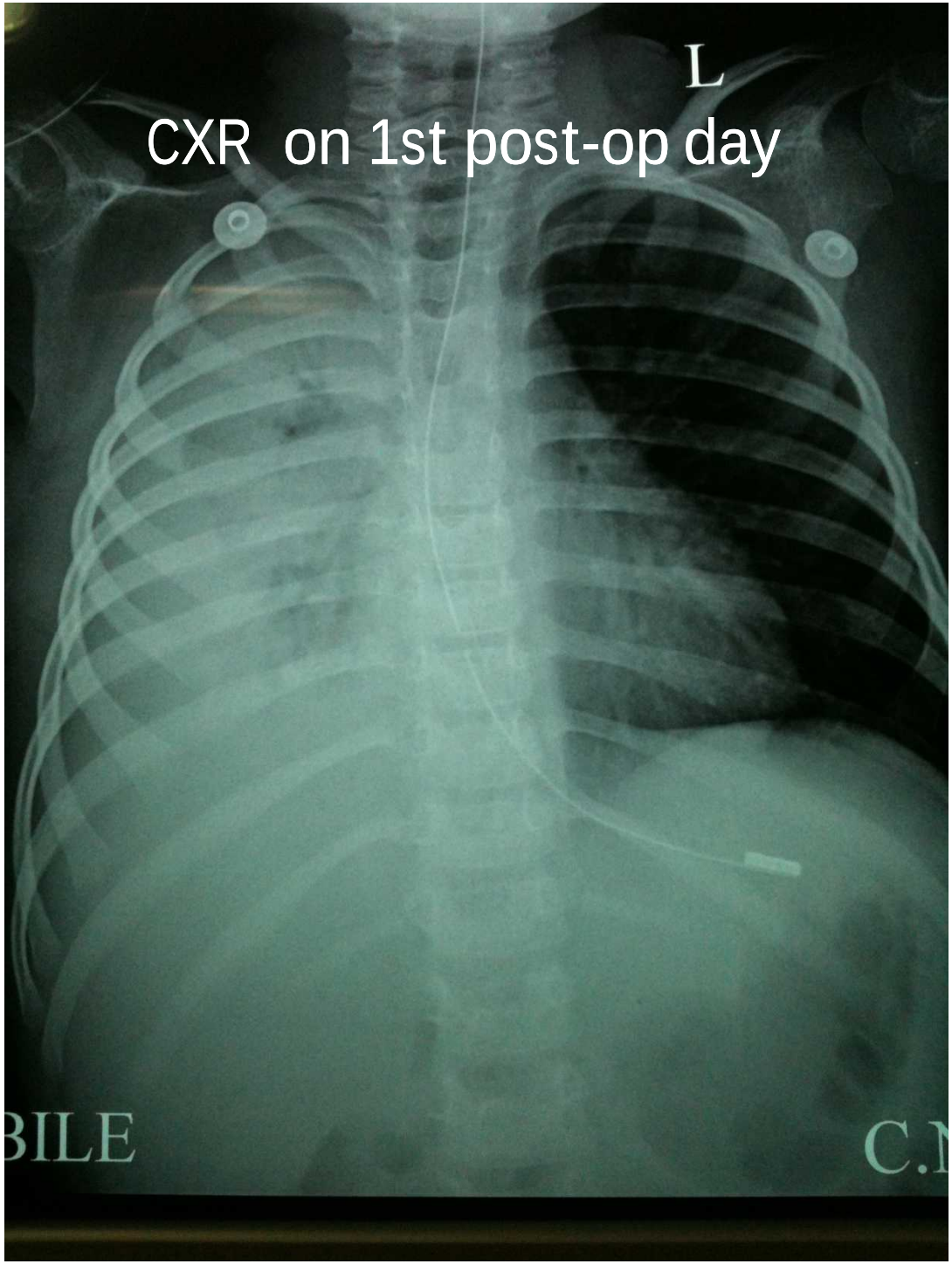
Lung/Pleura/Diaphragm-No injury/bleed

- Procedure :

Thoracotomy and Evacuation of Rt hematoma

POSTOPERATIVE PERIOD

- Extubated within 18 hrs of surgery
- Face mask CPAP x 48 hrs
- Bronchoscopy done to clear RUL collapse


L
CXR on 1st post-op day
BILE

Other incidental issues

Acute Renal Failure needing CRRT

- Ischemic ATN with oliguria / abnormal renal function at adm
- Worsening renal function(U-174,C-2.2) and persistent oliguria that was fluid and diuretic refractory
- Continuous Veno-Venous hemodiafiltration (CVVHD) for 7 days

ISCHEMIC HEPATITIS

- hepatomegaly
- SGPT: 360----3290 IU/L
- ALP:405,Bili 2.2, d-1.3,alb 3.1,PT/APTT>180s
- NAC infusion, Vit K

SEPSIS

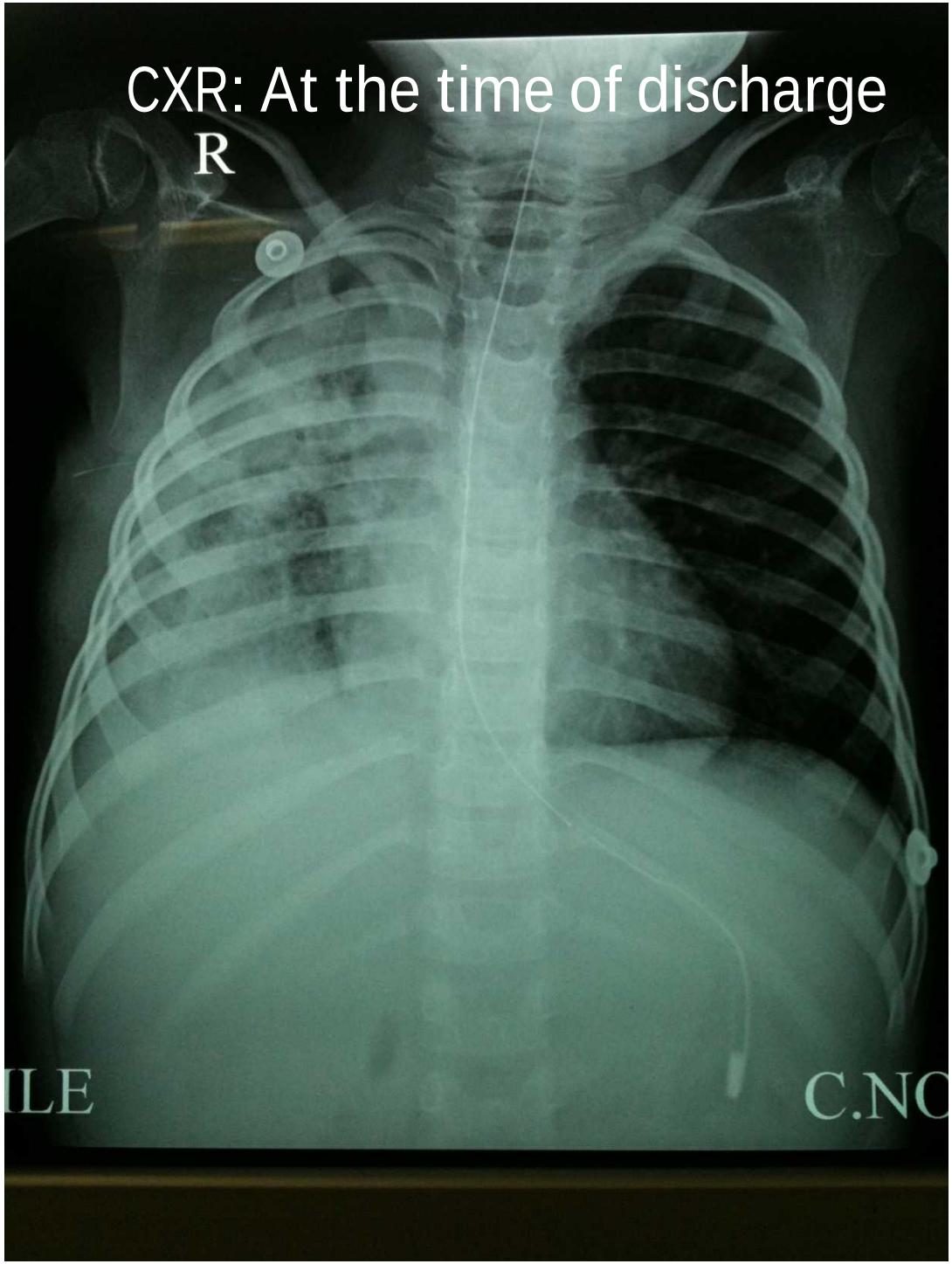
- Leucocytosis(TC-24100)
- Thrombocytopenia(0.48)
- Hemodynamic instability
- Broad spectrum antibiotics

CONDITION AT DISCHARGE

Gradually improving right lung collapse

Gradually declining Urea/creatinine(123/1.9)

No neurological deficit


CXR: At the time of discharge
R
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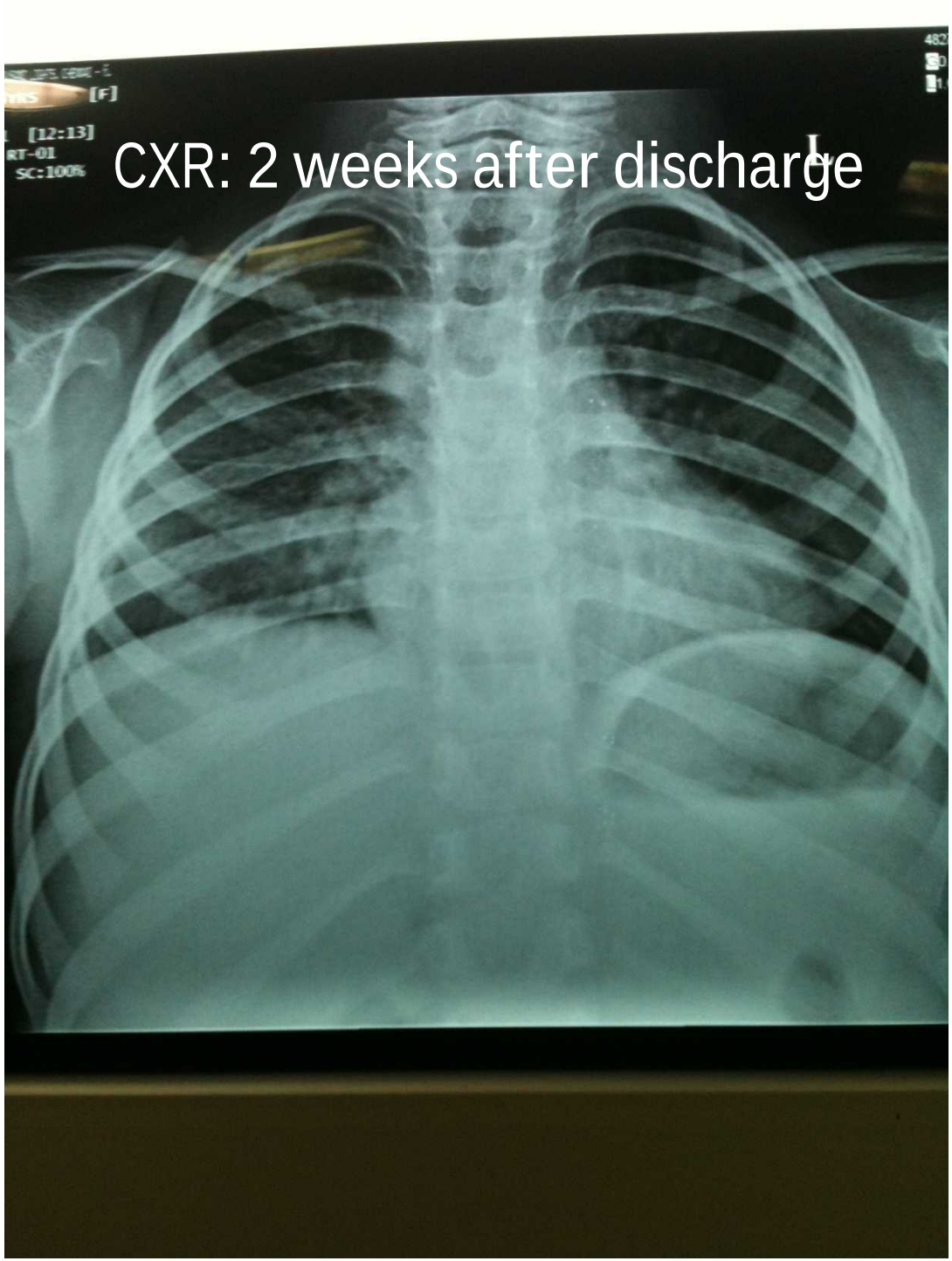
C.NC

FOLLOW-UP

- Good weight gain (12-----14kg)
- No respiratory symptoms
- No seizures at home
- Air entry equal on both sides
- Urine output- good
- CXR: Complete opening of Rt lung collapse
- RFT: Normal
- Skin: No significant scars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RT-01
SC:100%
CXR: 2 weeks after discharge

LEARNING POINTS

- Persistent shock can cause life threatening hemorrhage in the absence of severe thrombocytopenia

- Invasive procedures in severe dengue may be life threatening or life saving
- All that is important is Decision and Timing