Optimizing CMN collection for ECP With OPTIA device by filling one single chamber

SFH Paris December 12th 2014
Dr Kanouni Tarik
Therapeutic Apheresis Unit
University Hospital Saint Eloi Montpellier

CHRU MONTPELLIER
CENTRE HOSPITALIER REGIONAL UNIVERSITAIRE

Optimizing CMN collection for ECP With OPTIA device by filling one single chamber

- Rational of the study
  - Large variability of CMN collected
    - Many patient had few CMN collected
    - Specialy those with immunosupressive therapy (cortison with low level of CMN in the blood
    - CMN collected depending of CMN in the blood
  - No target for amount of CMN or lymphocyte
  - What is the current procedure.
    - To process 1 or 2 total blood volume wirh cells separator
    - Therakos 1.5 liter processed

- Aim of this study
  - BAsed on the fact that we don't know if total amount of CMN have an impact of therapy,
  - Not to collectec as much we can
  - But to Standardize CMN amount for each ECP session
    - All patient on the same level regarding on CMN collection
    - For those patient to hom we collete few CMN cells
    - Easy to make any retrospectiv analysis on clinical ECP clinical effect, having one less variablity data.

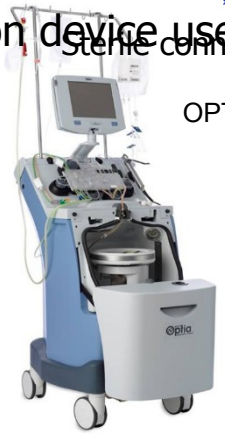
Our experience on CMN collection in our unit over more than 1800 ECP session

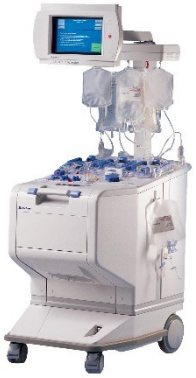
1/ Wide experience on device used

Sterile connection done before CMN collection

Cobe Spectra

OPTIA

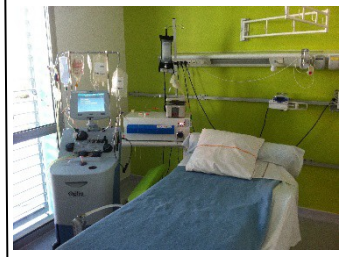




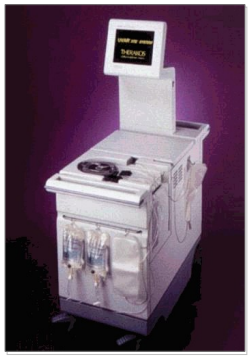
Amicus

COMTEC

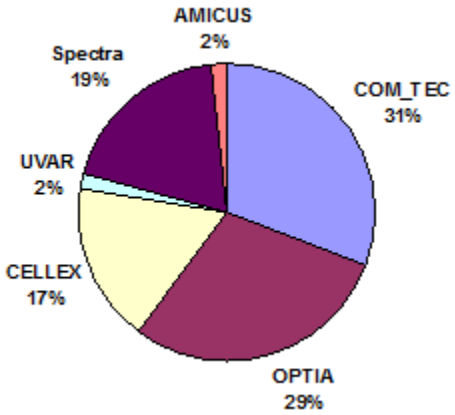
UVA PIT
System



Thérakos CellEx

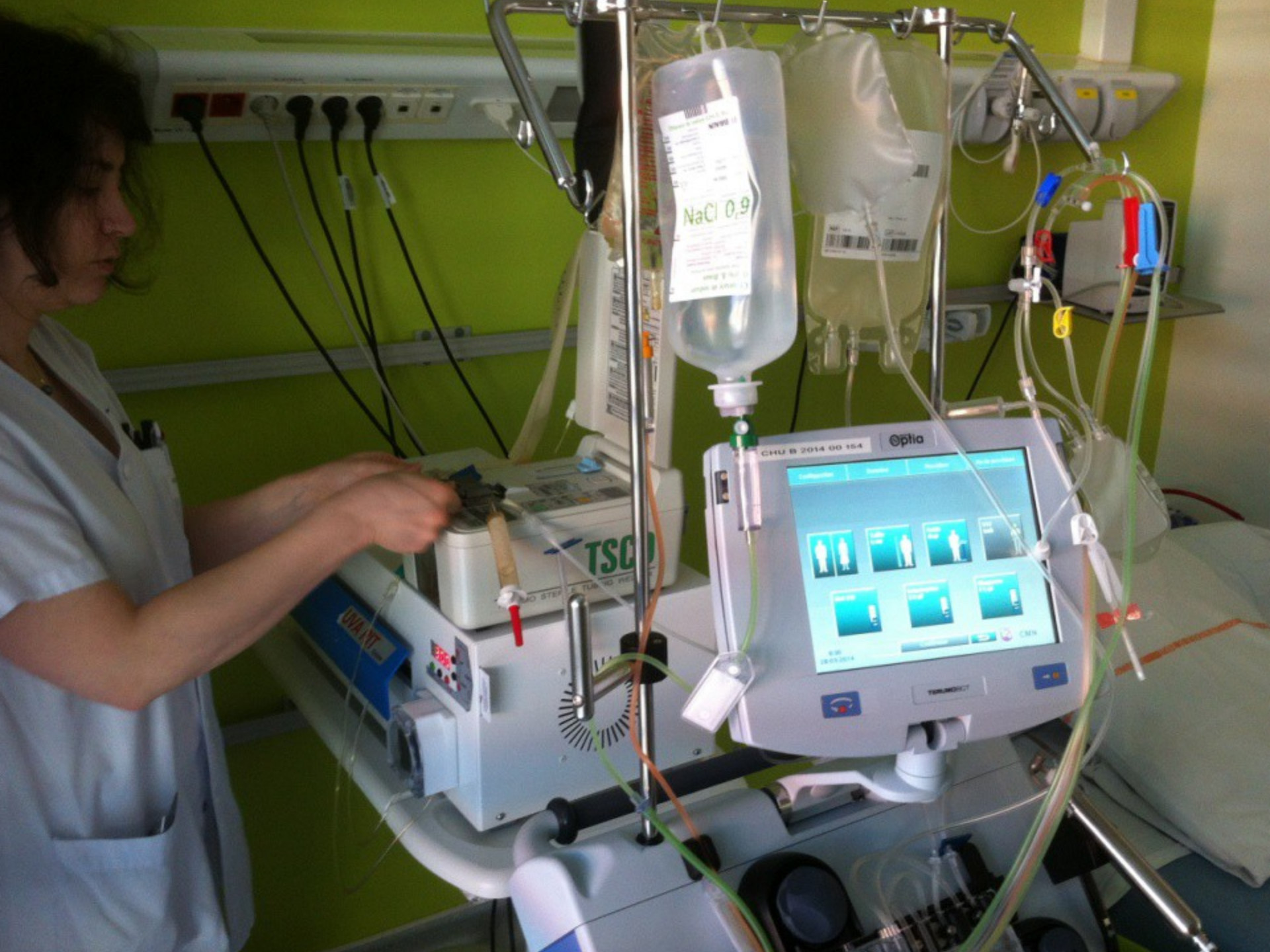


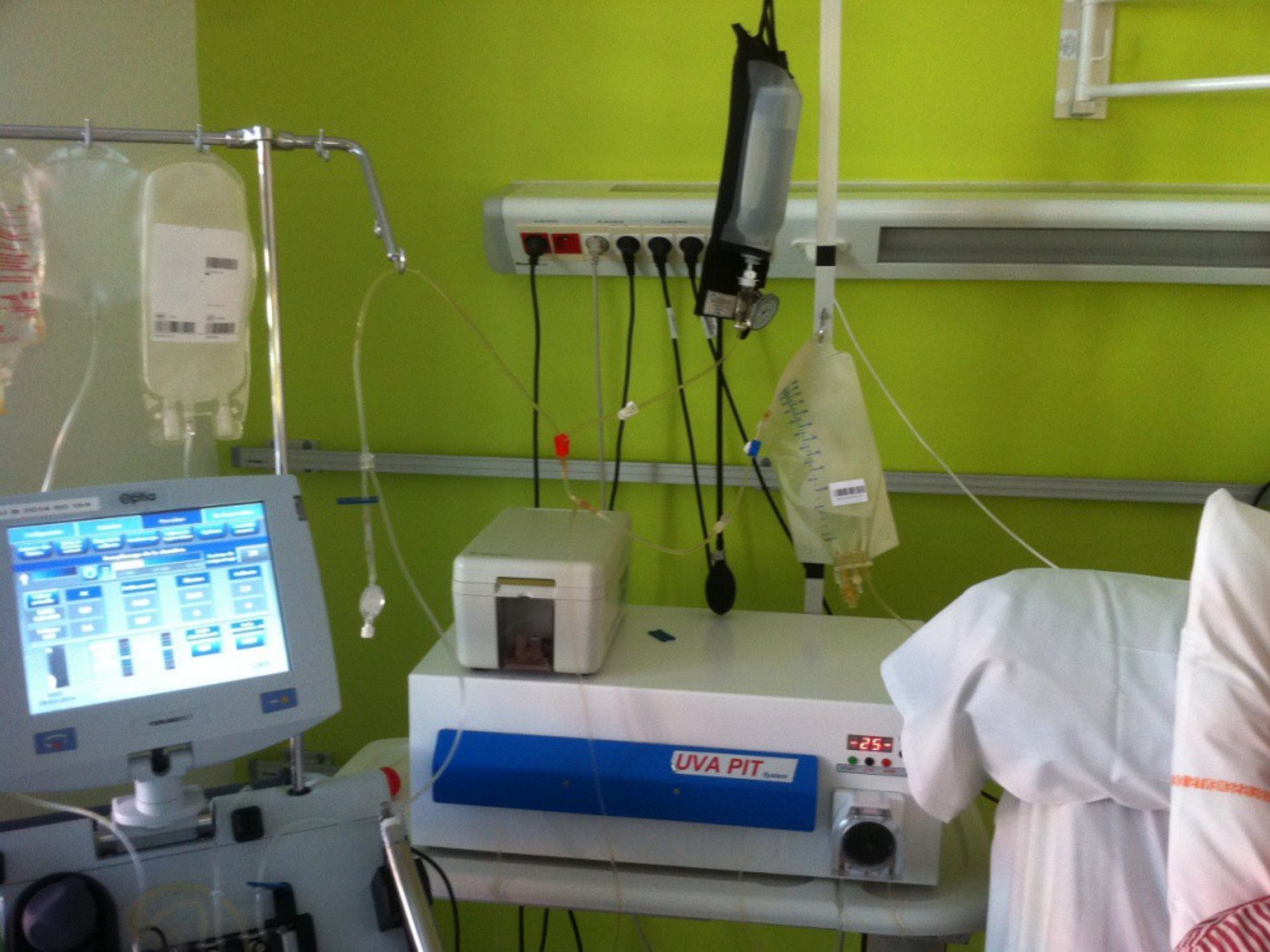
UVAR XTS



2/ Exhautive quality control on CMN

- CBC ans differential
  - IN the blood before ECP
  - In collection bag
- Real time integrated in Aphéresis database


NaCl 0,9
CHU B 2014 00 154
optia


UVA PIT

1/ Large variablity of CMN collected

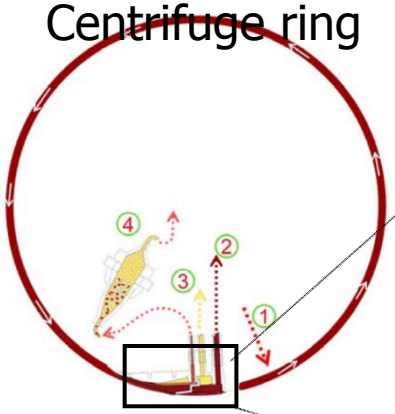
2/ CMN collected depending of CMN in the blood

How to reach the goal of the study

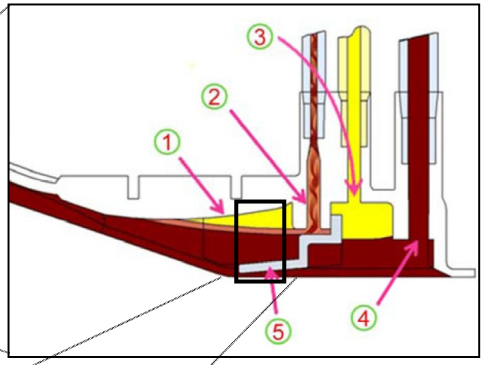
- Looking for technique:
  - Easy , repeatable
  - Fully automated (reduce human variability)
  - By using OPTIA Device we can reach this target

Why using OPTIA with one chamber

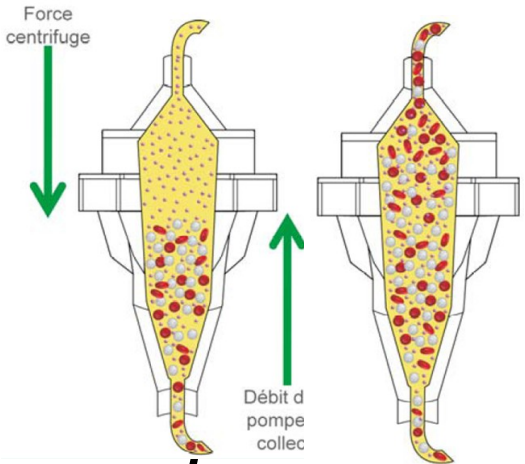
Centrifuge ring

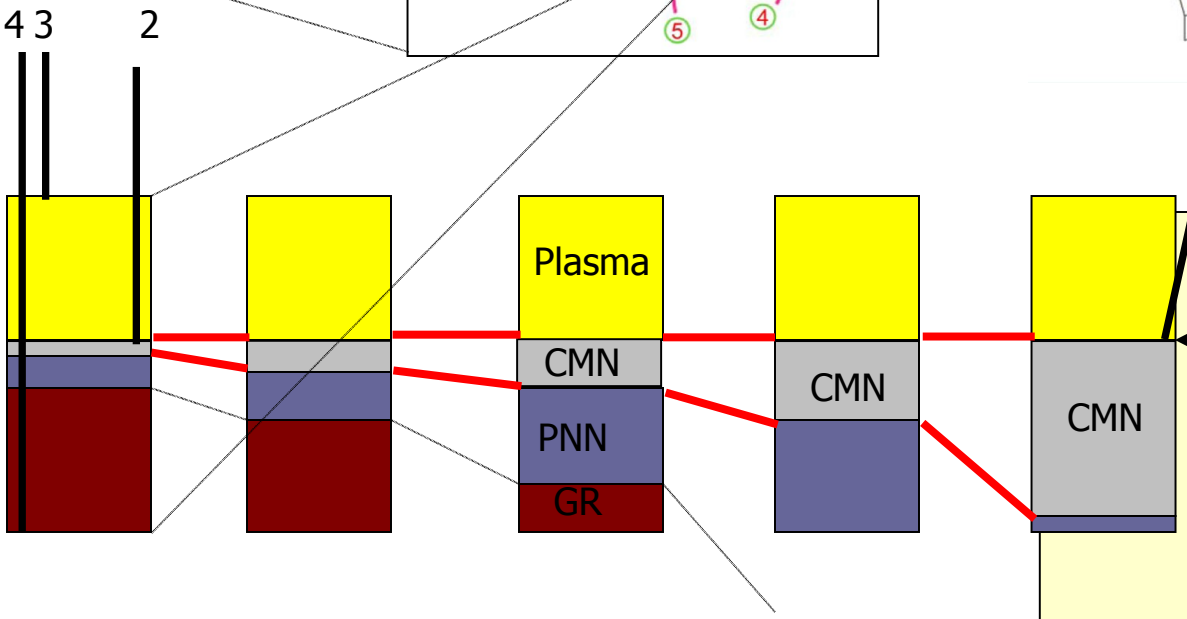


Continusly Collection chambre

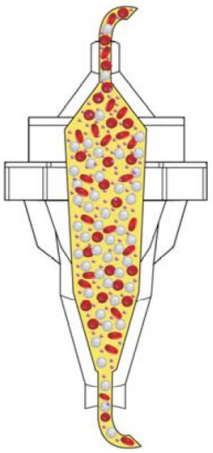


Chambre de collecte





Quality of cells trapped in chamber



- WBC in chanber:
  - CMN: Average is 91%
  - Mediane: 98%
- Almost all WBC in the chamber are CMN
- When a chamber is filled
  - Should we have always the same amout of cells?

Study parameter

- 1 single chamber setting
  - Set UP One single chamber in the software of OPTIA
  - 40 ml in total in the bag
    - 16 ml as collected chamber volume
    - 24 ml to rince the tubing so that we get enought volume for processing into PIT systeme
- From 01/2013 to 04/2014
  - 146 ECP Sessions
  - 102 complete for analysis
- Comparison:
  - 202 ECP done by Optia
    - TBV between 0.9 and 1.1 processed
- Data to be compared
  - CMN, Lymp, Mono
    - Variability
  - Duration, Total blood volume preocessed,

Results: Regarding Total CMN collection

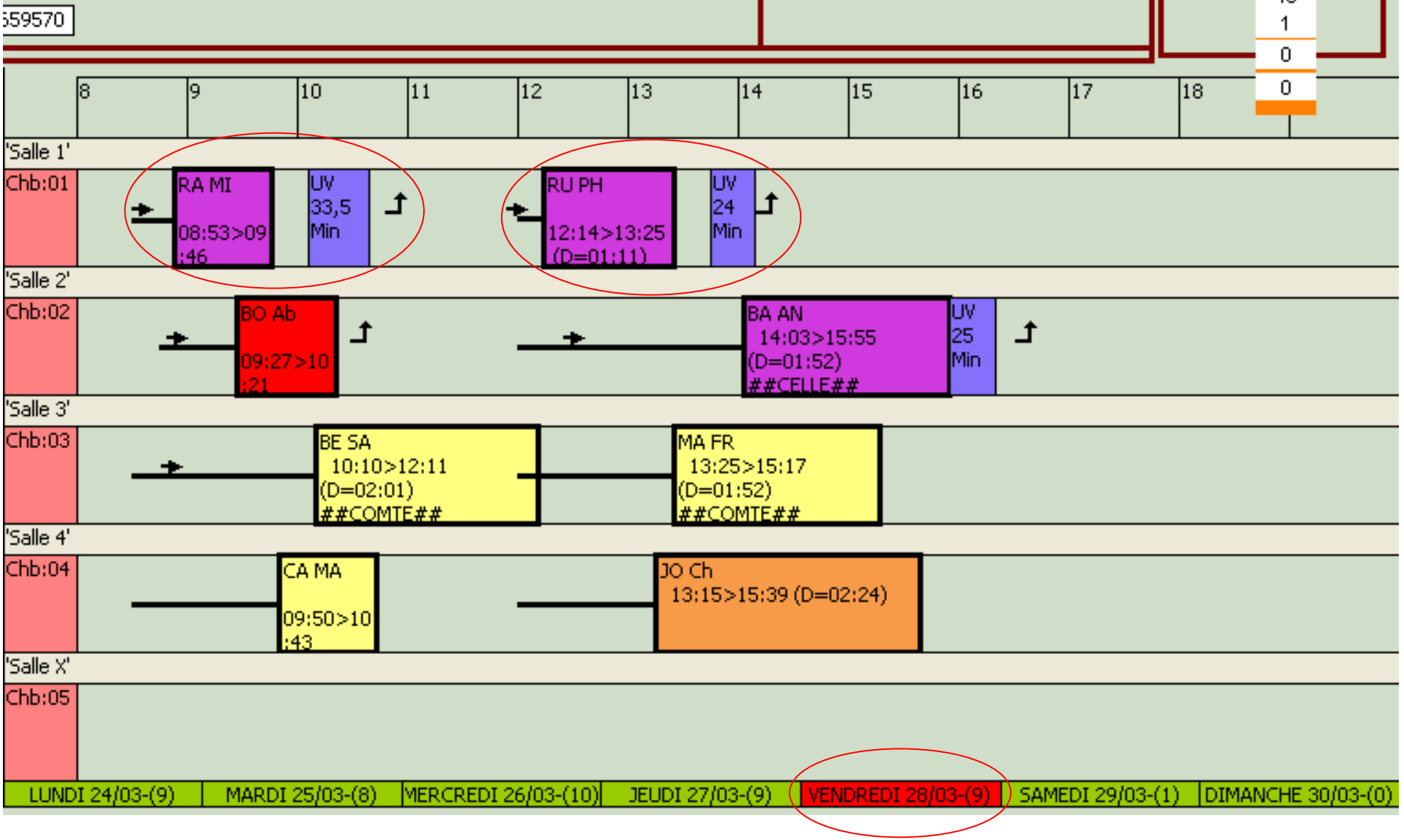
- Regarding to variability
  - Reducing by fliilong on single chamber
- Regarding to total cell collected
  - Effective

Intra individual variation

- Analysis for intraindividual patient variability
  - Each point is patient
  - Sorted by number of procedure
  - Analysis for total CMN collection
- By filling 1 single chamber
  - Reduce intraindividual variation
  - Variablilty is more predictible

Analysis of the amont of total patient blood volume processed

Duration of CMN collection


559570
1
0
0
8
9
10
11
12
13
14
15
16
17
18
'Salle 1'
Chb:01
RA MI
08:53>09
:46
UV
33,5
Min
RU PH
12:14>13:25
(D=01:11)
UV
24
Min
'Salle 2'
Chb:02
BO Ab
09:27>10
:21
BA AN
14:03>15:55
(D=01:52)
##CELLE##
UV
25
Min
'Salle 3'
Chb:03
BE SA
10:10>12:11
(D=02:01)
##COMTE##
MA FR
13:25>15:17
(D=01:52)
##COMTE##
'Salle 4'
Chb:04
CA MA
09:50>10
:43
JO Ch
13:15>15:39 (D=02:24)
'Salle X'
Chb:05
LUNDI 24/03-(9)
MARDI 25/03-(8)
MERCREDI 26/03-(10)
JEUDI 27/03-(9)
VENDREDI 28/03-(9)
SAMEDI 29/03-(1)
DIMANCHE 30/03-(0)

Conclusion

- Filling 1 single chamber as target
  - Is effective way according to standardize CMN collection
  - Easy to manage (always he same volume collected)
  - Good for schudel managment shorter and predictible
  - Getting enough cells
- To collect more CMN cells
  - To maintain the advantages of chamber target.
  - We can increase the target to 2 chambers
  - Knowing that the second chamber is fullfil faster than the first
- This is intermediate analysis
  - We have to check the impact of
    - Platlette, REd cells, individual
  - Waiting for technical analysis from terumo
    - Each session data was send to terumo R&D to chek if there was any technical failure during collection to make this data more reliable