

How aggressive can passive antibodies be?

Clare Milkins
Scheme Manager
UK NEQAS (BTLP)
SHOT WEG

What is passive?

“Inert or quiescent”

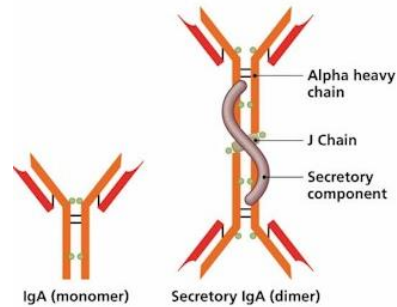


**“Produced or caused
by an external agency”**

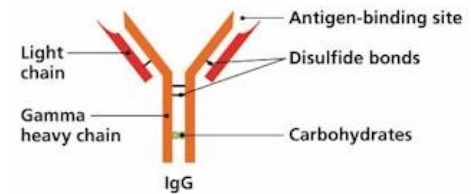
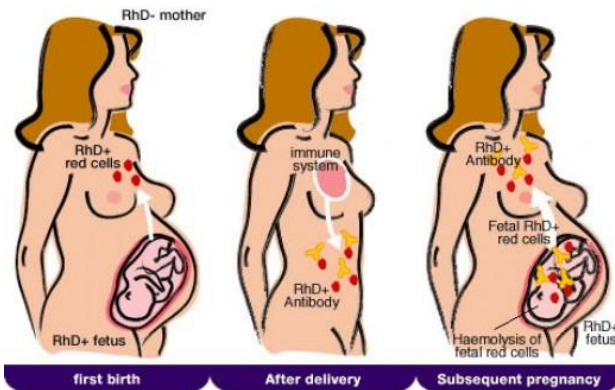
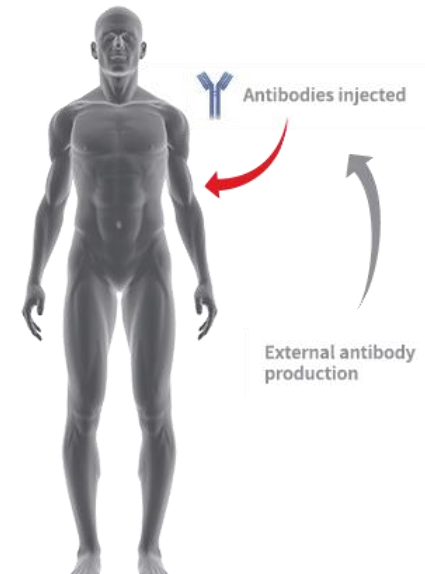
**“Receiving or
subjected to an action
without responding or
initiating an action in
return”**



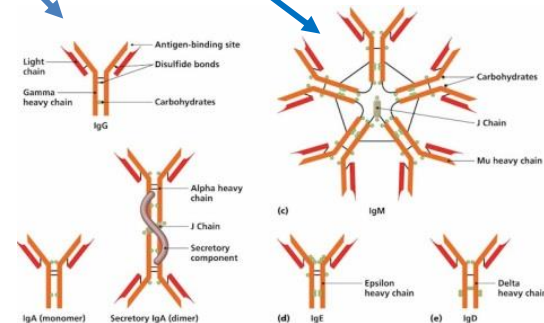
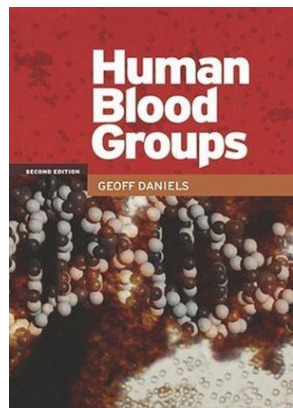
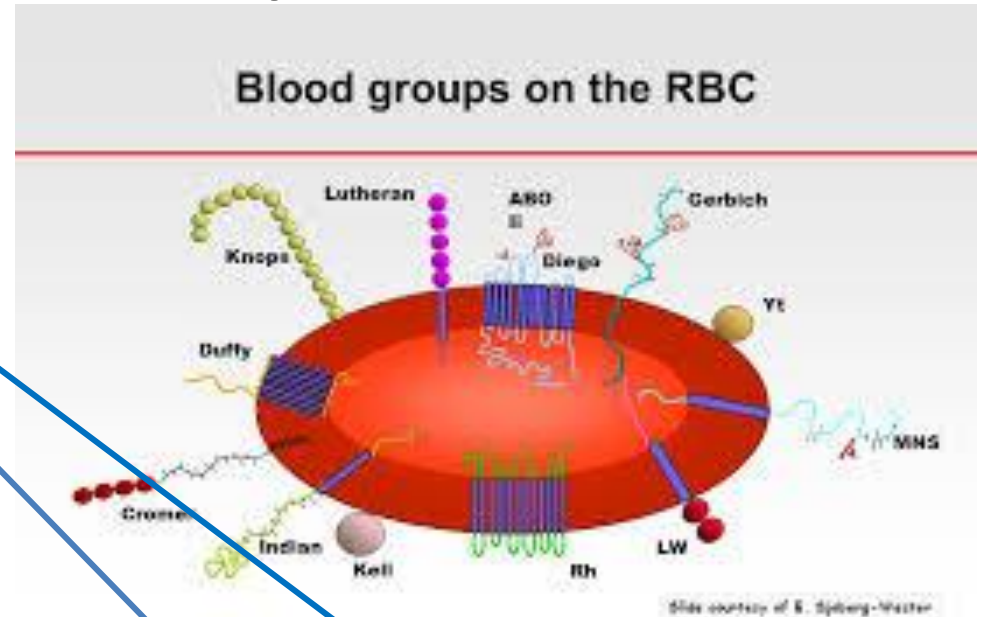
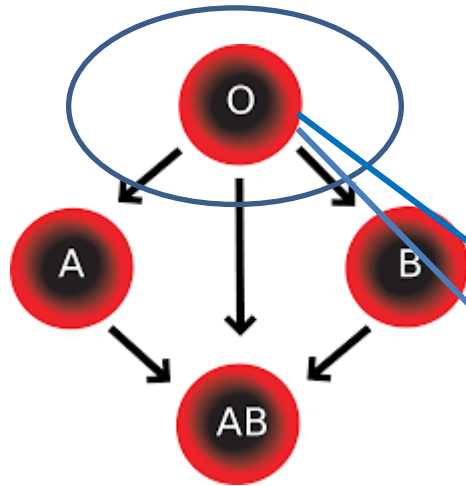
What is a passive antibody?



Passive immunization



Passive antibodies given with plasma components or products





Standard donations are screened for red cell antibodies :

Negative at 1 in 50 for red cells

Negative at 1 in 10 for plasma



Group O platelet donations are screened for high titre anti-A and -B

**Negative at 1 in 128
by saline agglutination**

What's the risk?

Self-limiting

Usually mild

Highest Risk Scenarios

High titre

High plasma volume

Small blood volume



How can it happen?



Deliberate action due to clinical need

Unknowingly due to
'contaminated' plasma
products (IVIg)



Accidental – human error



Examples from SHOT

SERIOUS HAZARDS OF TRANSFUSION

SHOT



ABO incompatible platelets

20 cases reported between
2006/7 and 2015

19 due to anti-A (O to A)

1 due to anti-B (A to AB)

7 cases major morbidity

Intravascular
haemolysis

Impaired
renal function

ITU
admission

Seven found to be high-titre when tested
retrospectively

5 by IAT: titre 2048 to 20,000

3 by DRT: titre 1024

Only 3 cases since 2008 (introduction of standard controls)



High-dose intravenous immunoglobulin (100g over 2-4 days)

4 cases since 2011

Massive haemolysis

The IVIg may be found to have
high titre anti-A



Case study from 2012

Group A MDS patient , with neutropenic sepsis
and a subdural haematoma

Received group B pooled platelets and high-
dose IVIg (2x80g in one day)

2 days later

Red plasma
Positive DAT – anti-A eluted
Hb fell by 50g/L to 43g/L
Creatinine 600 $\mu\text{mol/L}$
LDH 1984 U/L
Bilirubin 118 $\mu\text{mol/L}$



Admitted to ITU
Required renal dialysis
Subsequently died

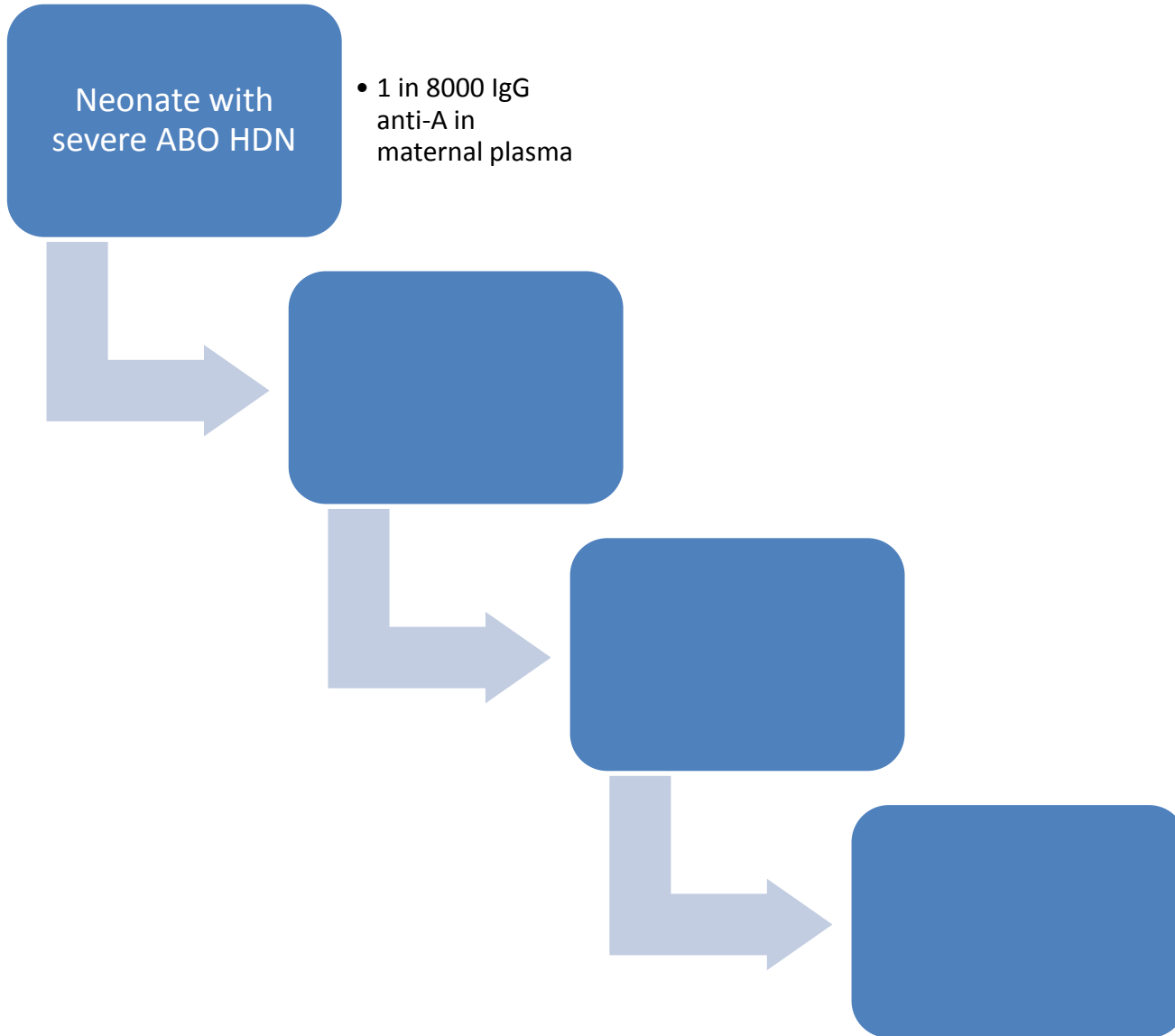
Incompatible FFP (IBCT and Never Event)

year	No. Cases	Patient group	FFP given	Cause
2015	2	Baby – group unknown	O	O neg red cells given
2014	4	Trauma - MHP	O	3 units FFP thawed for previous patient
2013	3	Emergency	O	Group O red cells given and post transfusion group appeared to be O by immediate spin
2012	3	?	O	Wrong blood in tube

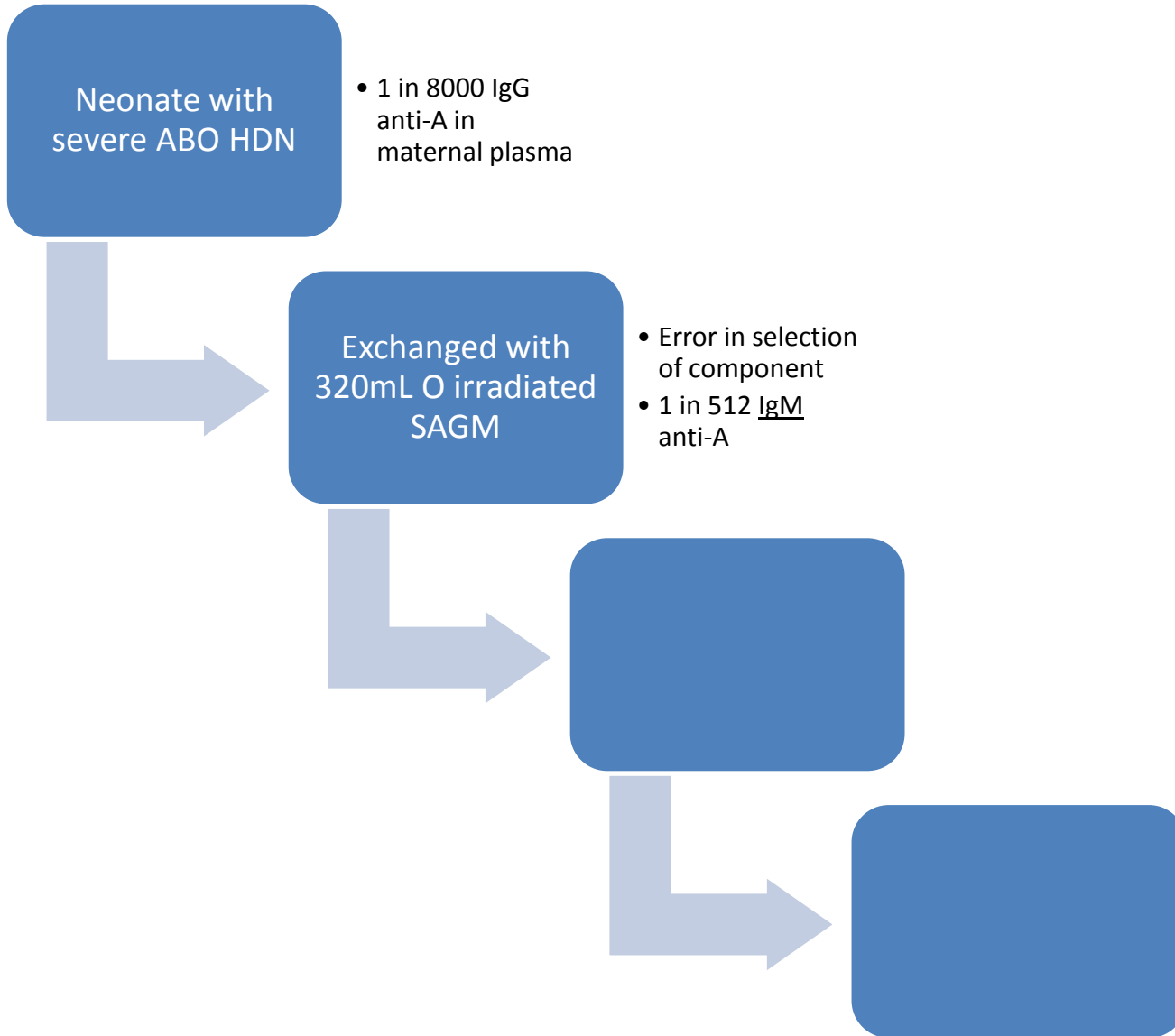
Consider risk of giving large volumes of group O plasma following WBIT if patient appears to be group O



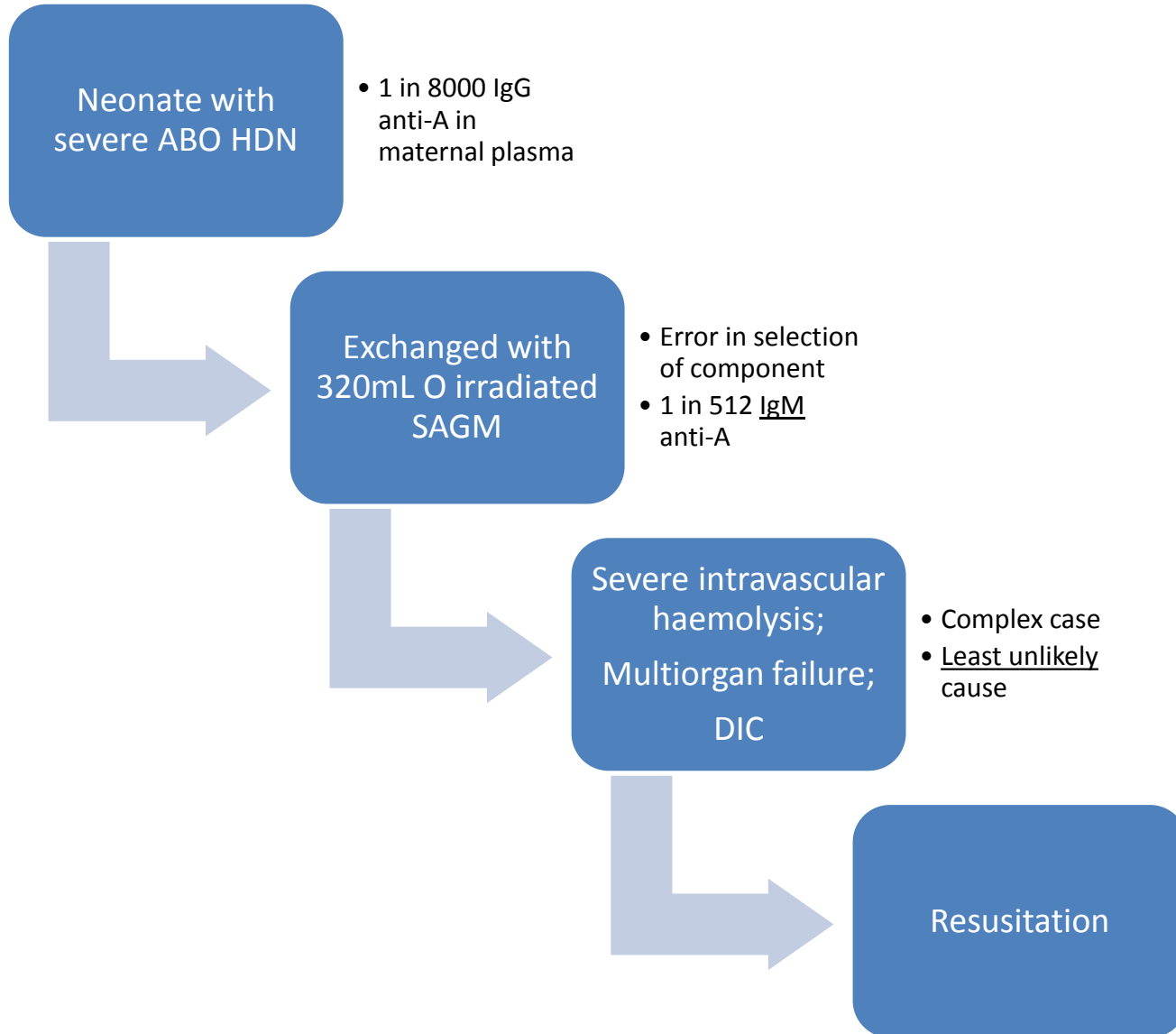
2015 IBCT Case Study



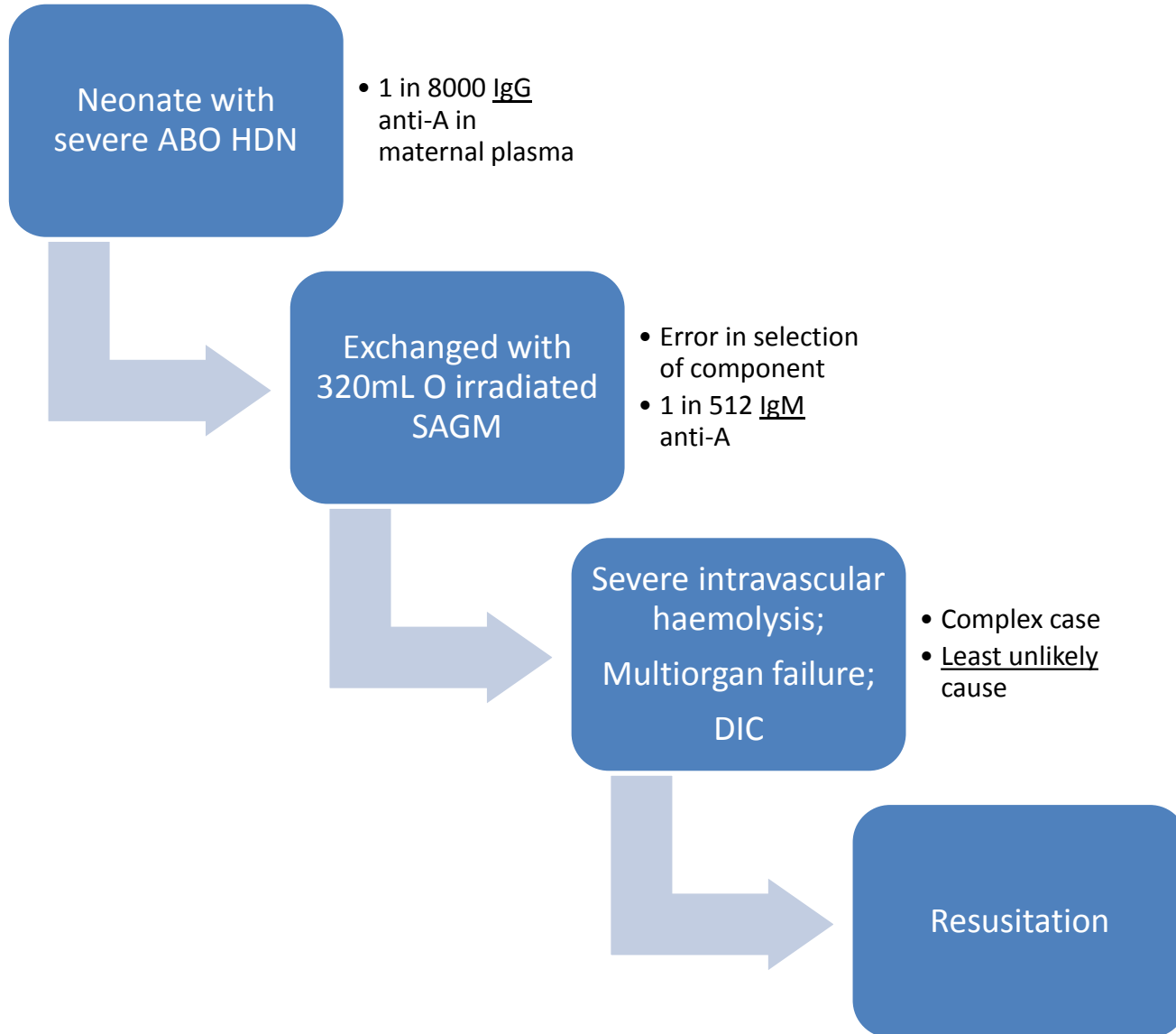
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In Conclusion



