

The utility of albumin infusion in a pregnancy complicated by Familial Podocytopathy and sub-nephrotic range proteinuria

Dr Amanda Beech

Royal Brisbane and Women's Hospital

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The Case

❖ 28F G2P1-1

❖ Familial autosomal dominant podocytopathy (unclassified)

❖ Low level proteinuria

❖ Pre-pregnancy 24-hour urinary protein ~ 1.3g

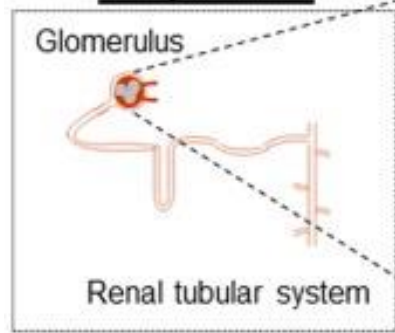
❖ Low serum albumin (out of keeping with the degree of proteinuria)

❖ Albumin 25g/L

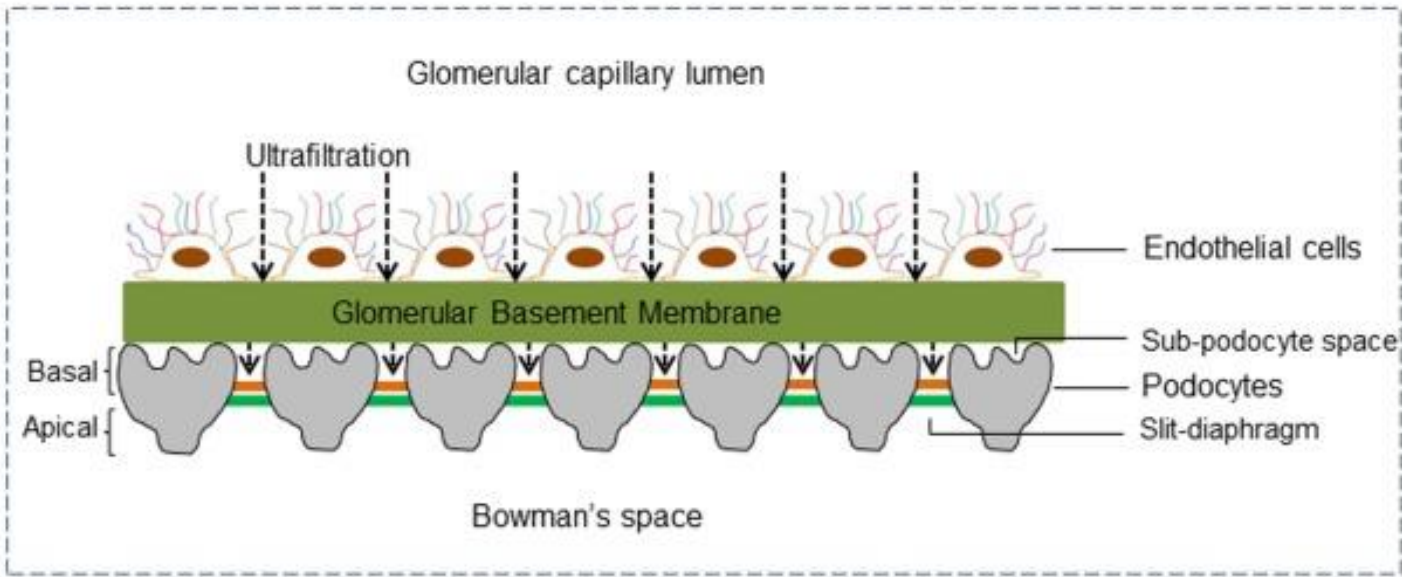
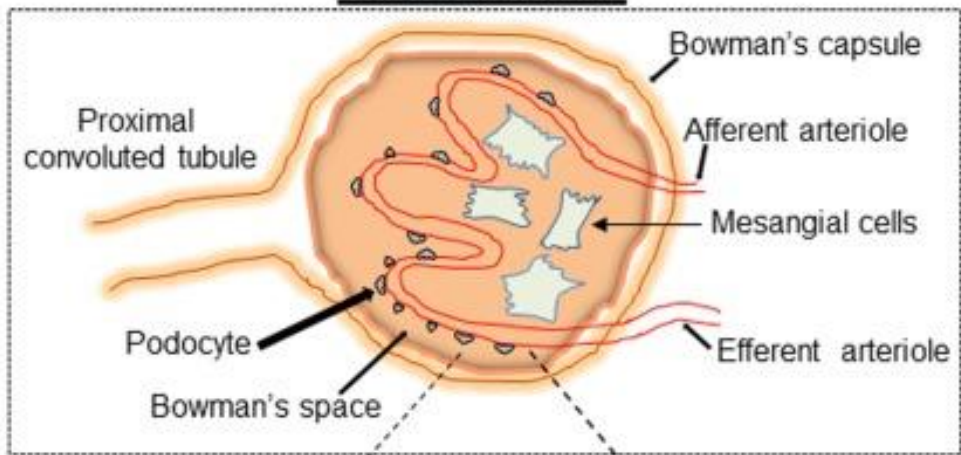
❖ Normal creatinine and eGFR

❖ Cr 38mmol/L, eGFR >90

Nephron



Glomerulus



Nephrotic syndrome in Pregnancy

❖ Maternal complications:

- ❖ Pre-eclampsia
- ❖ Acute renal impairment
- ❖ Premature rupture of membranes
- ❖ Infection

❖ Fetal complications:

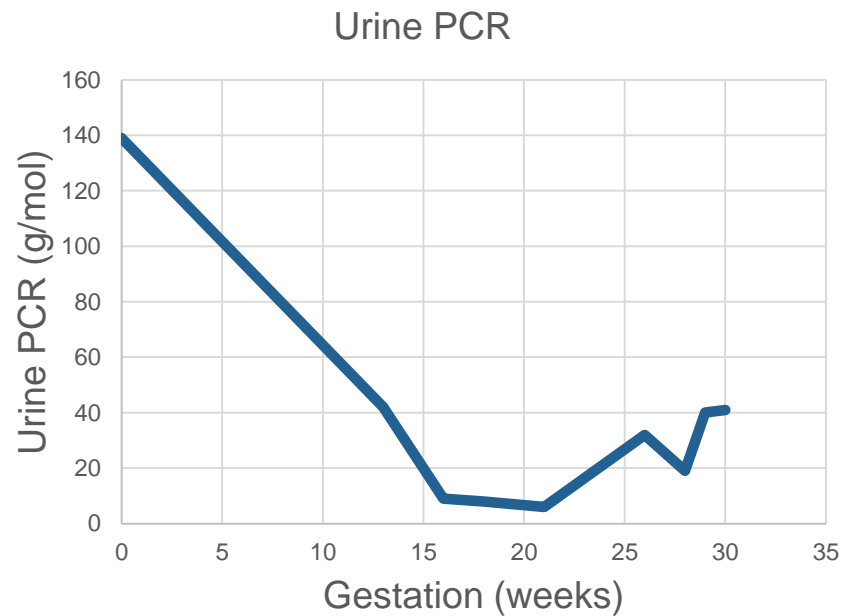
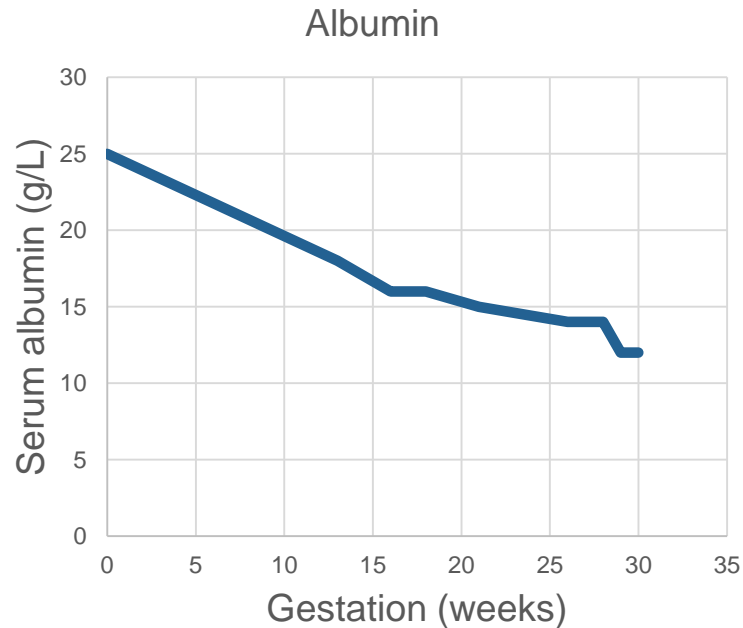
- ❖ Preterm delivery
- ❖ Low birth weight
- ❖ Intra-uterine growth restriction
- ❖ Neonatal ICU admission

❖ The degree of proteinuria is significantly associated with adverse outcomes

❖ An association exists between serum albumin and the risk of IUGR

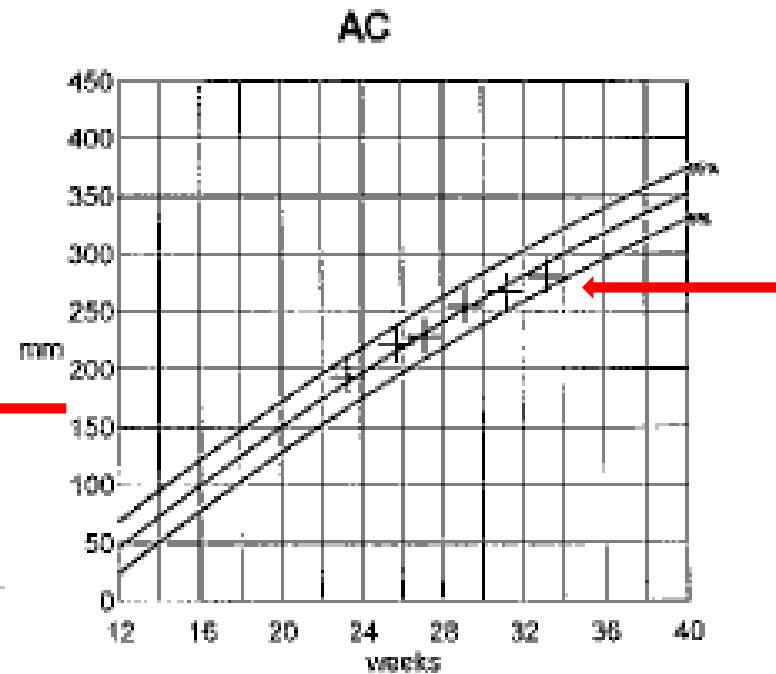
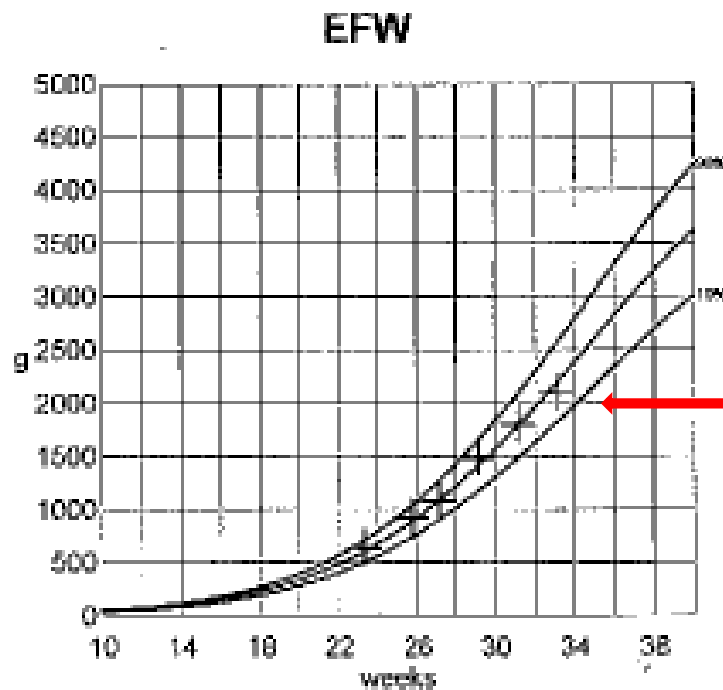
The Case

❖ Altered albumin equipoise in pregnancy??



Ms MV

❖ Close monitoring



Concerned?

❖ P1:

❖ Stillbirth at K22, chorioamnionitis

❖ Readmitted with RPOC and endometritis

Concerned?

❖ P1:

❖ Delivered at K22, chorioamnionitis

❖ Readmitted with RPOC

❖ Complex mental health issues

❖ 5 weeks postpartum admitted to MHU with deteriorating mental status

❖ 9 cycles of ECT

❖ Ongoing loss-associated PTSD

Family history

Sister (G3P2M1) (also affected by familial podocytopathy):

❖ P1

- ❖ Delivered via emLSCS at K31
- ❖ Severe IUGR (<5th), poor growth velocity, abnormal dopplers
- ❖ Placental histology: small thrombus burden

❖ P2

- ❖ Aspirin 100mg, Clexane 40mg
- ❖ Delivered via emLSCS at K33 for fetal distress in the setting of acute chorioamnionitis
- ❖ Fetal weight 50th%, placenta: no evidence of thrombus

- ❖ M1: fetal loss at K10, Trisomy 18

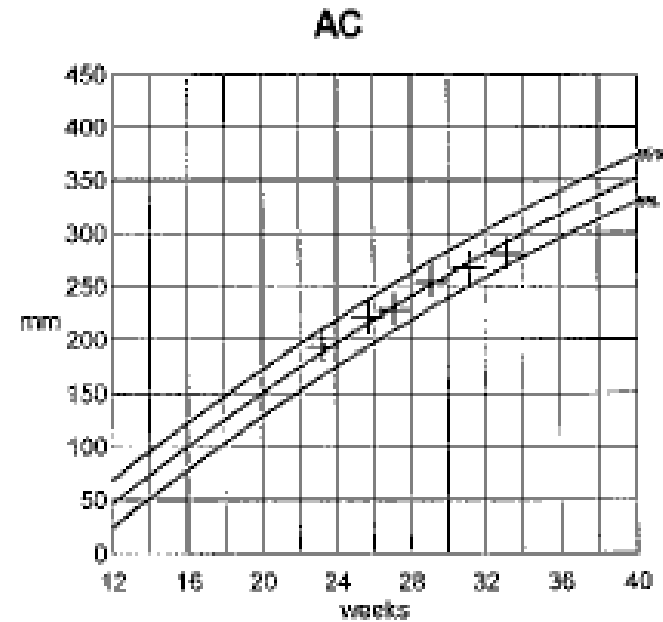
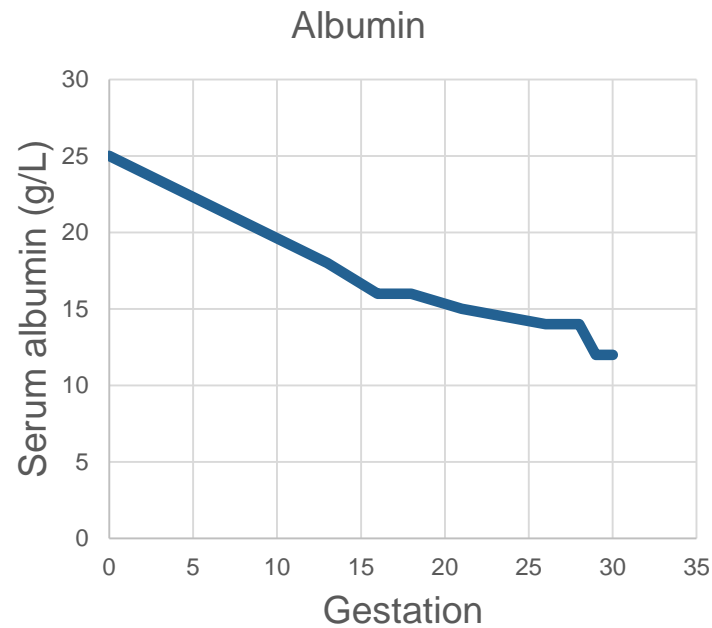


Further concerns...

- Worsening postural symptoms from K28
- DEM admission at K31

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- Worsening postural symptoms from K28
- DEM admission at K31





Management

- ❖ Consideration given to:
 - ❖ Delivery
 - ❖ Steroids
 - ❖ Albumin infusions (Albumex 200ml 20% twice weekly)

Management

❖ Consideration given to:

❖ Delivery

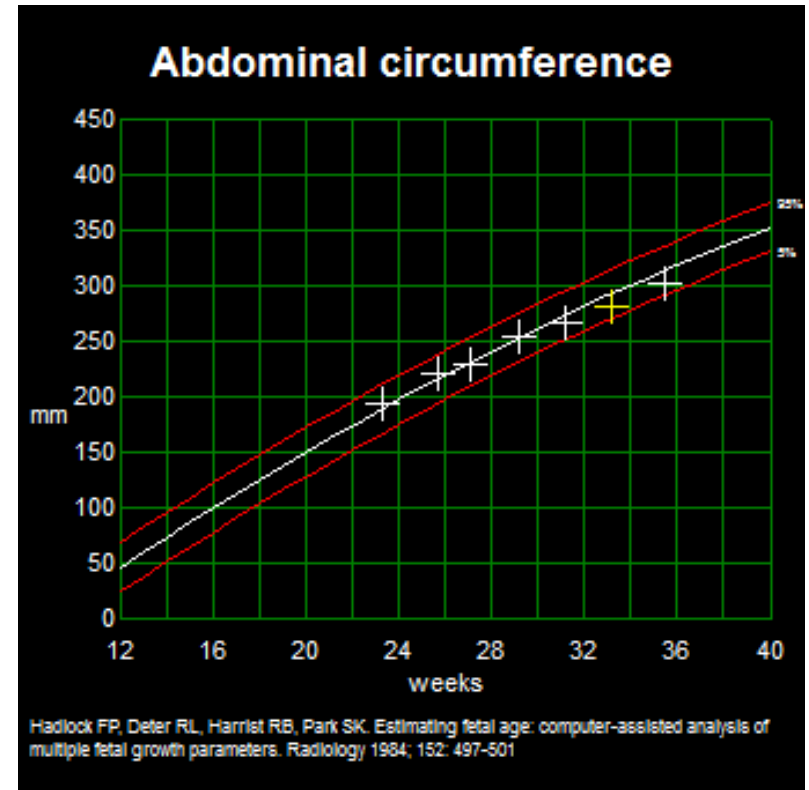
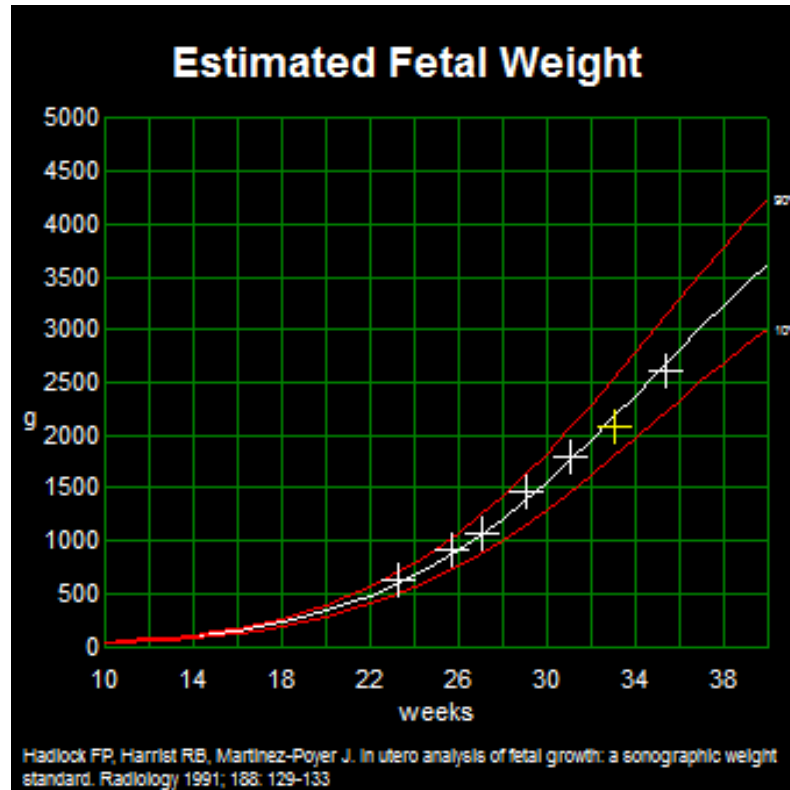
❖ Steroids

❖ Albumex infusions (200ml 20% twice weekly)

Pre-infusion		Post-infusion	
Albumin (g/L)	Urine PCR	Albumin (g/L)	Urine PCR
14	29	16	192
14	156	18	321
16	240	22	316
17	320	20	324

Serum albumin maintained at 18-20g/L for remainder of pregnancy

Management





Discussion

- ❖ Novel podocytopathy, uncharacterized
- ❖ Benign disease outside of pregnancy

- ❖ Altered albumin equipoise during pregnancy:
 - ❖ Profound hypoalbuminemia
 - ❖ Postural symptoms
 - ❖ ? Drop off in fetal growth

- ❖ Management with albumin infusion in pregnancy



References

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