

## Hypertensive disorders of pregnancy – what do I think?

Hypertensive disorders of pregnancy represent major causes of maternal and foetal morbidity and mortality, affecting 10-15% of all pregnancies (pre-eclampsia 3-10%). Pre-eclampsia, particularly in its severe forms with intra-uterine growth retardation and prematurity, has to be considered as a cardiovascular and renal risk factor. Pre-eclampsia doubles the risk of stroke and ischemic cardiopathy, renal disease in the next 5-15 years, et multiplies by four the occurrence of a fixed hypertension. So, the guidelines of the ESH 2013 recommand to take into account the obstetrical history (hypertension, preeclampsia, gestationnal diabetes, intra-uterine growth retardation, prematurity, child low birth weight) in the cardiovascular anamnesis of a woman.

The different presentations of hypertension during pregnancy are :

- Preexistant hypertension (primary or secondary) : BP (blood pressure)  $\geq 140/90$ mmHg before pregnancy, or HTN (hypertension) before 20 amenorrhea weeks (AW), or antihypertensive treatment before pregnancy ;  $\pm$  proteinuria; persists in the post-partum.
- Gestational HTN : HTN *de novo*  $\geq 140/90$ mmHg after 20 AW ; absence of proteinuria; resolution in the post-partum.
- Preeclampsia, eclampsia :  $\geq 140/90$ mmHg after 20 AW ; proteinuria with proteine/creatinine urine spot ratio  $\geq 30$  (cave 10% with no proteinuria, but other organ damage). Edema is not any more a criterion, neither the BP difference before/during pregnancy.
- Preeclampsia superimposed on chronic HTN: worsening of known HTN and proteinuria  $\pm$  other organ damage.

The other organs that may be damaged are essentially: the central nervous system (comprising severe headache), hepatic capsule distension, hepatic tests alterations (sometimes HELLP), thrombocytopenia, hemolytic anemia, renal failure, intra-uterine growth retardation, acute pulmonary edema, heart failure. Some preeclampsia occur in the post-partum period.

ESH 2013 guidelines recommand medical antihypertensive treatment during pregnancy if BP  $\geq 150/95$ mmHg, if gestational HTN and BP  $\geq 140/90$ mmHg, if organ damage and/or symptoms (Class IIb, evidence level C).

Antihypertensive medications allowed during pregnancy :

- $\alpha$ -methyl dopa (central agonist  $\alpha$ 2-adrenergic central) (class B) : medication of choice because of proved long-term security. Practically : side effects and low efficacy. Breastfeeding +
- Labetalol (non-selective  $\beta$ -blocker, with  $\alpha$ -blocker activity (class C). Breastfeeding +
- Nifedipine slow release. Cave hypotension with magnesium sulfate. Breastfeeding +
- Hydrochlorothiazide (class B) : useful in case of HTN preexisting before pregnancy (can be continued). Cave : intravascular volume contraction. May reduce breastfeeding.
- Other alternatives : prazosine, clonidine.
- $\beta$ -blockers, particularly atenolol (class D) are not recommended because of intra-uterine growth retardation (except oxprenolol class B). Breastsfeeding –

All renin-angiotensin-aldosterone system blockers, including aliskiren et spironolactone are against-indicated during pregnancy.

On the other hand, enalapril and benazepril are compatible with breastfeeding.

In high risk preeclampsia patients (pre-existing HTN, ages <20 years ou >40 years, diabetes mellitus, renal disease, history of preeclampsia, thrombophilia...) aspirine 100mg/d is recommended from 12 AW for preeclampsia prevention (if unaugmented hemorrhagic risk). (IIb).

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