

Abstract 046 – Table. Optimization steps of radiation protection

		Reference level	Local level CHBA 1	Ratio vs Reference	Local level CHBA 2 after optimization	Ratio vs Local level CHBA 1
	Metric	PKA [Gy-cm <sup>2</sup> ] Ray-Act 2010	PKA [Gy-cm <sup>2</sup> ] 04/2011 to 02/2012	[%]	PKA [Gy-cm <sup>2</sup> ] 03/2012 to 12/2012	[%]
Patient radiation protection	Coronarography (Number of procedures)	56 (31167)	27 (779)	-53%	24 (683)	-10%
	Angioplasty (Number of procedures)	110 (25356)	38 (99)	-68%	35 (91)	-10%
	Metric	ED [μSv/month] Vano et al. 2006	ED [μSv/month] 10/2012 to 04/2013	[%]		
Worker radiation protection	Cardiologist 1		77	-36%	56	-27%
	Cardiologist 2	120	12	-90%	13	8%
	Cardiologist 3		17	-86%	13	-24%

2010 for KAP and Vano et al. 2006 for ED), choice of optimization issues for S4. S4: Optimization work based on medical and scientific literature databases.

**Results:** Metrics have been extracted from 2431 procedures for patient (April 2011 to December 2012) and from 1852 procedures for workers (January 2012 to April 2013) before and after first optimization step respectively (see table). In terms of patient radiation protection, S3 as shown local levels 60% lower than reference levels. Optimization based on x-ray system features adjustment has allowed to further decrease that level of 10%. Moreover, a method to estimate DPP after procedure, using DICOM Dose Report was established. It allows identification of patients who overstep significant CIRSE-SIR PSD threshold to offer them a specific follow-up. In terms of workers radiation protection, S3 has shown heterogeneous ED local levels from 36 to 90% lower than reference level. Optimization step S4 has narrowed ED from 53 to 90%.

**Conclusion:** The strategy implemented has allowed to optimized significantly both patient and worker radiation protection practices. Evaluation will be carried out twice a year to keep CHBA practices at their current levels (table above).

## 047

### Impact on early complications of non-compliance with guidelines-recommended timelines for reperfusion therapy in STEMI patients. The FAST-MI 2010 registry

Etienne Puymirat (1), Luc Lorgis (2), Pierre Coste (3), Sandrine Charpentier (4), Gilles Lemesle (5), Eric Durand (1), Vincent Bataille (4), Tabassome Simon (6), Nicolas Danchin (1)

(1) Hôpital Européen Georges Pompidou (HEGP), Cardiologie, Paris, France – (2) CHU Dijon, Cardiologie, Dijon, France – (3) Hôpital Haut-Lévêque, Cardiologie (USIC), Pessac, France – (4) CHU Rangueil, Toulouse, France – (5) CHRU de Lille, Lille, France – (6) Hôpital Saint Antoine, Cardiologie, Paris, France

**Background:** In STEMI patients, the ESC 2008 guidelines recommend a time from qualifying ECG to PCI (T-ECG-PCI) <90 minutes for patients with symptom onset <120 minutes, and <120 minutes when symptom onset is >120 minutes. Likewise fibrinolysis should be administered <30 minutes from ECG (T-ECG-lysis).

**Aim:** To assess in-hospital outcomes in patients with fibrinolysis or primary PCI (PPCI) according to the recommended times to reperfusion therapy.

**Methods:** FAST-MI 2010 is a nationwide French registry that included 4169 patients with AMI at the end of 2010. Of those, 1706 had STEMI and were referred for intended PPCI (n=1376), or had IV fibrinolysis (n=330). Patients were divided in 4 groups: Gr1 (T-ECG-PCI <90 min if onset <120 min or <120 min if time from onset >120 min; n=711), Gr2 (T-ECG-PCI >90 min if symptom onset <120 min or T-ECG-PCI >120 min if symptom onset >120 min; n=665), Gr3 (T-ECG-lysis ≤30 min, n=222), and Gr4 (T-ECG-lysis >30 min, n=108).

**Results:** Overall, patients with intended PPCI were older than patients treated with fibrinolysis, and those meeting guidelines requirements were younger than those not meeting these requirements. GRACE score was higher in Gr2 than in

Gr1, and lytic-treated patients had lower GRACE scores. In-hospital mortality was 3.5% in Gr2, vs 1.1% in Gr1 and 1.8% in patients with fibrinolysis. After adjustment for confounders, not meeting the recommended timelines for PPCI was associated with a nearly 3-fold increase in hospital mortality (OR: 2.92; 95%CI:1.17-7.30, P=0.02). In fibrinolytic-treated patients, timely administration of lysis was associated with a lower hospital death rate (1.4% vs 2.8%), though the difference was not statistically significant.

**Conclusion:** These real-world data confirm the importance of a short time delay between qualifying ECG and reperfusion therapy in STEMI patients

## 048

### Delay to reperfusion in acute ST-elevation myocardial infarction: guidelines versus real-life practice in the RESURCOR registry

Komlavi Yayehd (1), Loic Belle (2), Magali Fourny (3), François-Xavier Ageron (2), Stephanie Marliere (4), Stephane Rias (2), Pascal Usseglio (5), Dominique Savary (2), Guillaume Debaty (2), Gerald Vanzetto (4)

(1) Cardiologie, Annecy, France – (2) Hôpital, RENA, Annecy, France – (3) Evaluation médicale, Grenoble, France – (4) Cardiologie, Grenoble, France – (5) SAMU Chambéry, Chambéry, France

**Background:** Rapid reperfusion is crucial in the treatment of acute ST-elevation myocardial infarction (STEMI). The latest STEMI guidelines from the European Society of Cardiology (ESC) recommend primary percutaneous coronary intervention (PPCI) if the delay between first medical contact (FMC) and wire passage is ≤120 min and fibrinolysis for delays >120 min. With a ≤20 min delay from FMC to wire acceptable for PPCI, it appears that most patients would be eligible for/have access to PPCI. We sought to assess time to reperfusion in STEMI patients in a real-life registry and according to ESC guidelines.

**Methods:** RESURCOR is an ongoing registry of all cases of acute STEMI in the north French Alps, an area that covers three French departments (Isere, Savoie, Haute-Savoie), with 1.8 million inhabitants, and a population that doubles during the summer and winter holidays. In RESURCOR, delays and care pathway for STEMI patients, from symptoms onset to reperfusion, were recorded by the physicians.

**Results:** Between October 2002 and December 2011, 6169 patients were enrolled in the RESURCOR registry. Of these, 2573 patients were treated with PPCI and had data recorded for delay from FMC to artery puncture; 329 patients had a contraindication to fibrinolysis and 556/2244 (25%) of the PPCI patients without a contraindication to fibrinolysis had a delay from FMC-to-artery puncture >120 min. A total of 2768 patients were treated with fibrinolysis with recorded delays and 1381/2768 (50%) were admitted to a PCI-capable hospital with a delay from FMC-to-admission (or artery puncture in case of urgent coronary angiogram) <120 min.

**Conclusion:** When the latest ESC STEMI guidelines are applied to a real-world population, it appears that one-quarter of patients treated with PPCI would have been recommended for fibrinolysis and half of those who received fibrinolysis would have been recommended for PPCI.