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BACKGROUND

Knee arthroplasty is performed to replace native articulation. Main indication is knee arthritis.

Technical choices regarding type of replacement, total or unicompartmental knee arthroplasty (TKA/UKA respectively) and fixation method (cemented, uncemented or hybrid [partly cemented]) are still subject of debate. Countries with a registry, particularly in Northern Europe, showed an increase in the volume of knee arthroplasties in the last decade, as well as variability in the implanted population and implantation practices across countries.

OBJECTIVES

To describe the evolution of the number of arthroplasties performed and describe the characteristics of performed knee arthroplasties, of implanted devices and population, during the recent period in France.

METHODS

We used the French National Health Insurance Information System. All subjects having undergone unilateral knee arthroplasty in France between 1 January 2008 and 31 December 2013 were comprehensively included. Patients, hospital stay, procedures and implants characteristics were described over the 6 years of inclusion.

Patients with missing or incoherent information about the implant, with missing administrative information, having received bilateral knee prosthesis in the same hospital stay were excluded (N=23 938).

RESULTS

Over the six-year period, 472 600 knee arthroplasties were performed (among which 7% were revisions), with a 33% increase between 2008 (67 628) and 2013 (89 899).

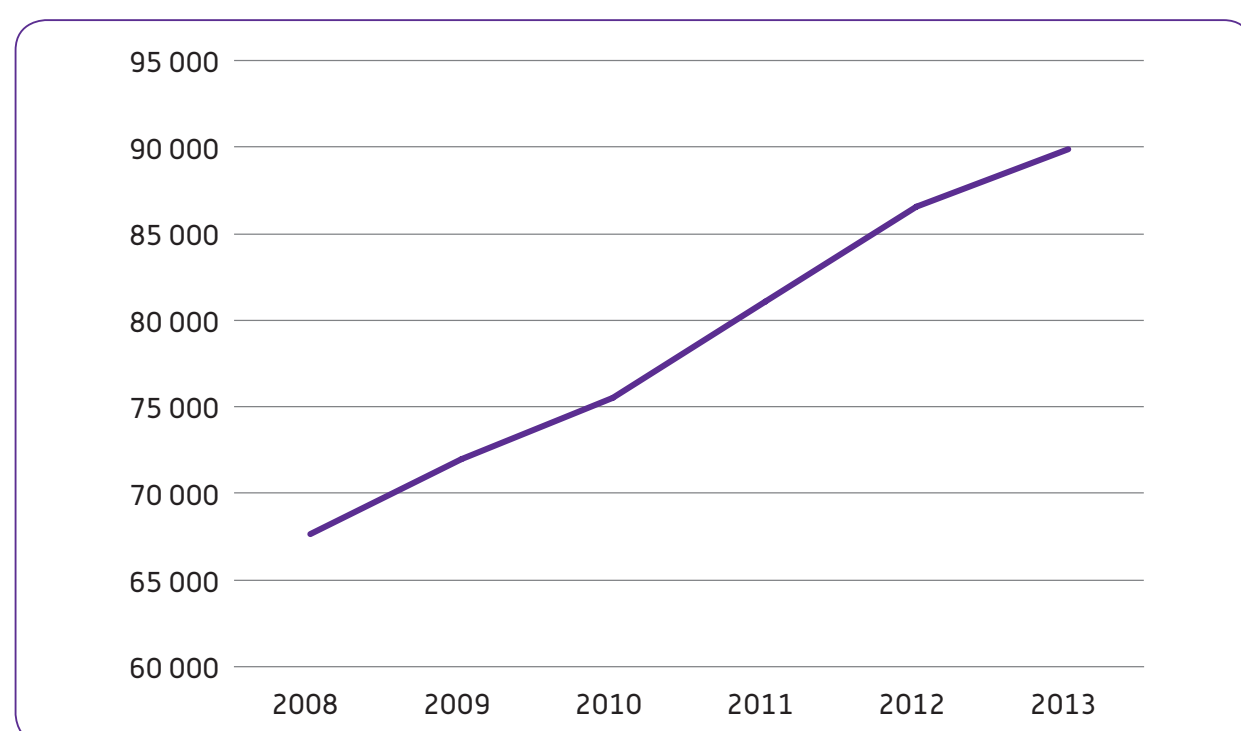


Figure 1: Number of knee arthroplasties in France (2008 to 2013)

Patients Characteristics

Implanted patients mean age was 71+/-9 years; proportion of patients between 75 and 85 years decreased from 38.3% to 33.1% over the period; meanwhile proportions of <55 and ≥75 years increased.

Women represented 63.5% of implanted patients; their proportion slightly decreased from 64.7% to 62.3%.

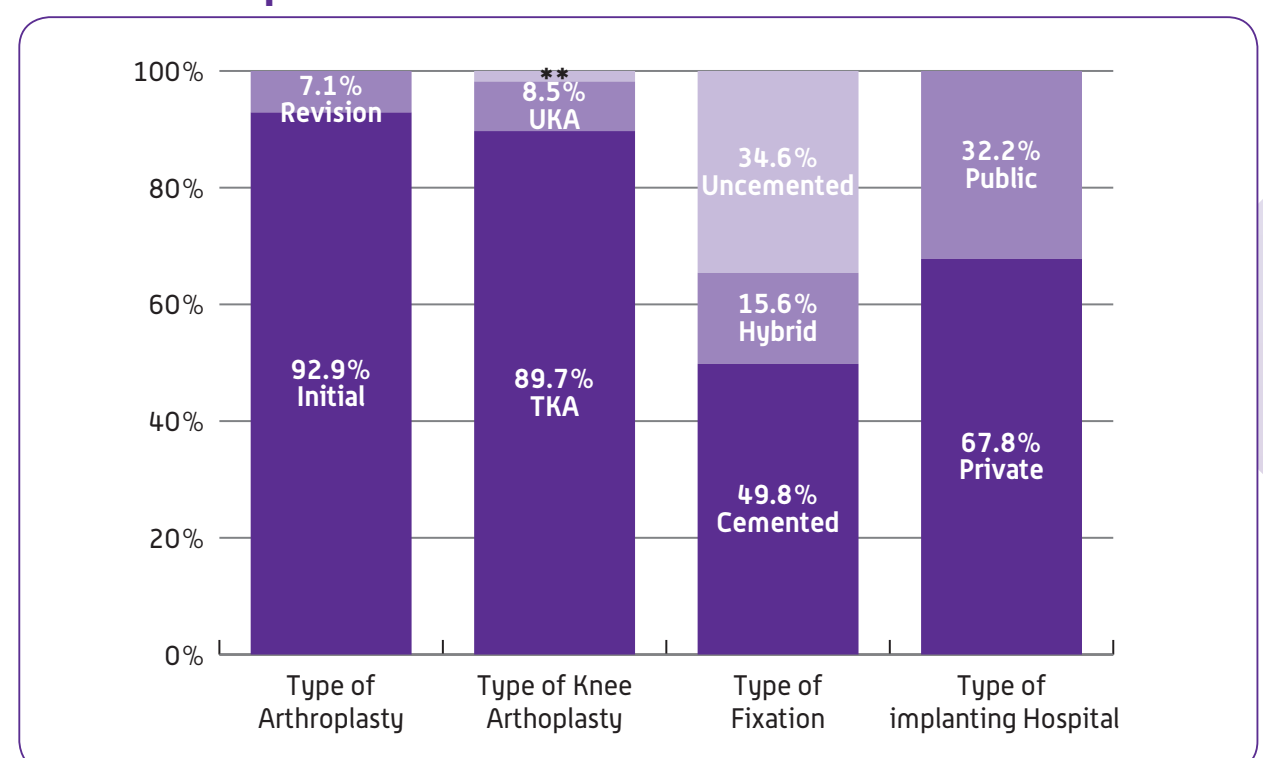
Overall, 18% of the patients were obese (13.9% in 2008, 20.0% in 2013) and 16.8% diabetic (15.6% in 2008, 17.1% in 2013); 17.6% suffered from depression (16.0% in 2008, 17.3% in 2013) and 4.9% had another psychiatric condition (4.1% in 2008, 5.2% in 2013); 15.3% had a cardiovascular condition with a decrease over the period (15.2% in 2008, 13.7% in 2013).

Table 1: Patients characteristics over the study period

	2008	2009	2010	2011	2012	2013
N = 472 600	67 628	71 982	75 498	81 062	86 531	89 899
Age group	%	%	%	%	%	%
<55 years	4.2	4.2	4.2	4.4	4.5	4.5
[55-65[	17.8	18.8	19.9	19.7	19.9	20.2
[65-75[	34.9	34.7	34.4	34.9	35.7	36.5
[75-85[	38.3	37.3	36.4	35.5	34.2	33.1
≥85	4.8	5.0	5.1	5.5	5.7	5.7
Mean age ± Sd	71.6 ± 9.1	71.4 ± 9.2	71.3 ± 9.3	71.2 ± 9.4	71.1 ± 9.4	70.9 ± 9.4
Women	64.7	64.4	64.1	63.3	62.7	62.3
Obesity	13.9	16.1	17.9	18.3	19.4	20.0
Diabetes	15.6	17.0	16.6	17.0	17.1	17.1
Depression	16.0	18.4	18.0	18.0	17.7	17.3
Other psychiatric condition	4.1	4.9	5.0	4.9	5.1	5.2
Cardiovascular condition	15.2	16.7	16.1	15.6	14.8	13.7

Average length of hospital stay decreased from 10.2 ± 4.7 days in 2008 to 8.7 ± 3.6 in 2013. In 2008, 70.1% of knee arthroplasties were performed in private hospital versus 66.8% in 2013.

Knee arthroplasties characteristics



** one component only (patella, insert, femoral, tibia): 1.8%
UKA: Unicompartmental Knee Arthroplasty – TKA: Total Knee Arthroplasty

Figure 2: Knee arthroplasties characteristics

Among performed knee arthroplasty, 7.0% were revisions. This proportion slightly decreased from 7.2% to 6.7% over the period; 89.8% were TKA (89.2% in 2008, 89.9% in 2013), 8.5% were UKA. This proportion decreased over time (7.2% in 2008, 6.7% in 2013) and 1.7% were uni-component implantation (stable over the period).

DISCUSSION AND CONCLUSION

Our study evidenced a substantial increase in the number of knee arthroplasties between 2008 and 2013 in France, consistently with findings from the Swedish and Australian knee replacement registries.

Strength was the population-based cohort with description of knee arthroplasties characteristics, from routinely recorded data.

Knee replacements performed were mainly cemented TKA and women were more often implanted, whatever the year; the proportion of obese implanted patients raised by 6 points over the period. It will be of great interest to study the survivorship of these implants over time.