CPC-131

Switching strategy. The pharmacist's point of view on cost, adherence and virological outcome.

C.Carcieri[1], G.Cinnirella[1], S.Bertini[1], B.Salassa[2], M.Bonasso[2], C.Bramato[2], G.Orofino[3], S.Carosella[3], G.Leo[4].

1.Farmacia Ospedaliera Amedeo di Savoia ASLTO2;
2.Ambulatori Clinica Universitaria Ospedale Amedeo di Savoia ASLTO2;
3.Ambulatori Divisione A Ospedale Amedeo di Savoia ASLTO2;
4.Ambulatori Divisione C Ospedale Amedeo di Savoia ASLTO2

A.S.L. TO2 Azienda Sanitaria Locale Torino Nord

Background

HIV infection is a complex medical problem that motivates the need for monitoring adherence to treatment, efficacy, development of resistances and toxicities. Estimated life expectancy of HIV sufferer patients is increasing. This makes it necessary to find efficient ways to optimize switching therapy of HAART in order to reduce costs and increase its efficacy. At the Amedeo di Savoia Hospital of Turin, the regional centre in Piedmont for HIV diagnosis and treatment, hospital pharmacists work in a multidisciplinary team with infection specialists, nurses, psychologists and dietitians. The team monitors every aspect of the clinical path resulting in an improvement of the clinical management of HIV patients.
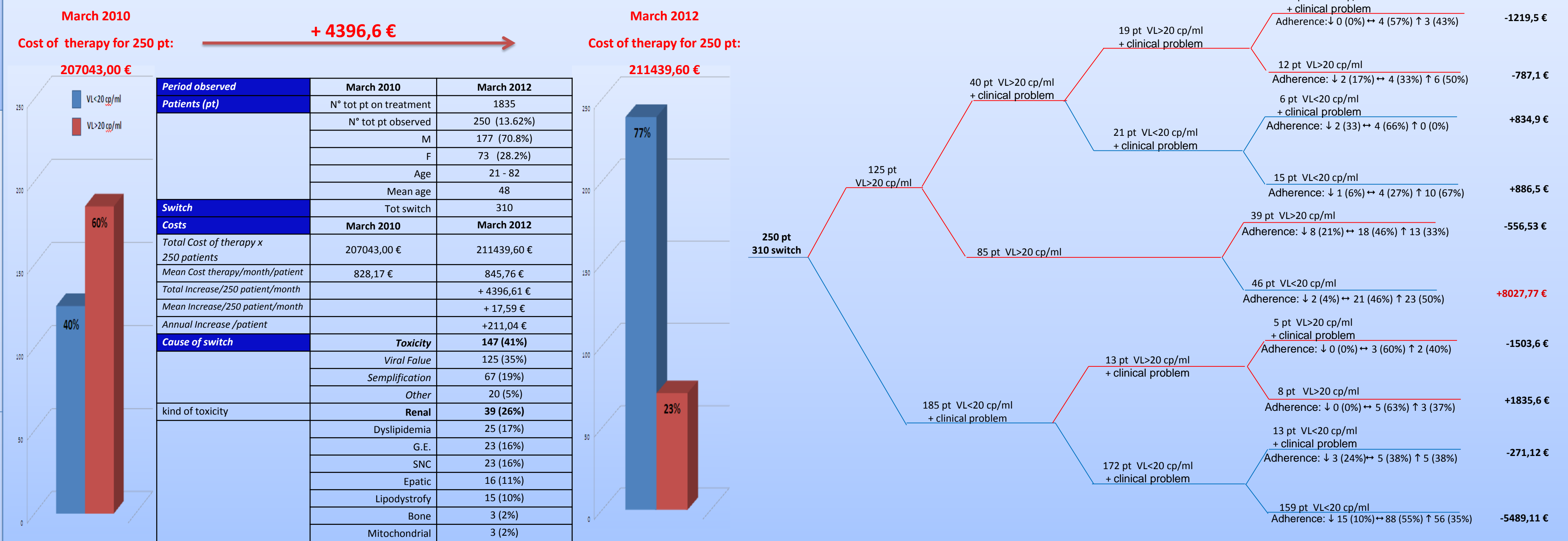
Objectives

•To monitor HAART for all patients on therapy
•To identify patients that have switched therapy
•To create a multidisciplinary database including adherence, finantial and clinical data before and after switch
•To study the distribution of available resources in relation to virological outcome and adherence response of patients
•To achieve a rational use of resources

Materials and Method

Collecting data from Oliamm Software and File F using a specific software application we analyzed the cost and adherence using the *pharmacy refill method* (total daily supplies between refill dates/duration of dispensed therapy x 100) of each switch therapy between March 2010 and March 2012. From clinical reports we have also evaluated the reasons of switch (toxicity, simplification, treatment failure) and the variation success in term of virological outcome.

Results

Antiretroviral therapy switch occurs in 250 patients (177 males, 73 females, mean age 48 years old), over about 1835 HIV-positive in treatment, considering overall 310 switches (about 8% on patient request). In 151 cases the switch leads to an economic saving and in 159 cases an increasing of cost, bringing overall to an excess of cost of 4396,6 € each month (+17,59 € per patient per month). The reasons for the variation were: treatment failure in 30%, simplification of the therapy in 20%, toxicity in 44% and other causes 6%. Focus on simplification evidenced: 13% decrease of pill burden, 17% on Single tablet regiment (STR), 55% on Less Drug Regiment (LDR), 10% on Once a day therapy (QD). We also analyzed the cause of toxicities. From our study we observed an increased of patients with suppressed viral load from 60% to 77% with evidence of efficacy. Out of the 125 patients who pre-switched viral load was not suppressed, 67 patients (54%) had a suppression after the switch. Of 185 patients who had their viral load suppressed before the switch, 172 patients (93%) conserved viral suppression after the switch, but 13 patients (7%) had viral rebound. The change of the treatment didn't have an impact on adherence in 50,32% cases, produced an improvement of the adherence in 39,03% of switch, only 10,65% show a decrease of adherence. We also analyzed the distribution of cost, observing a better use of resources for obtaining viral load under 20 cp/ml and an economic saving for treatment of patients who were already suppressed before the switch.

March 2010
Cost of therapy for 250 pt:
207043,00 €

+ 4396,6 €

March 2012
Cost of therapy for 250 pt:
211439,60 €

VL<20 cp/ml
VL>20 cp/ml

Period observed	March 2010	March 2012
Patients (pt)	N° tot pt on treatment	1835
	N° tot pt observed	250 (13.62%)
	M	177 (70.8%)
	F	73 (28.2%)
	Age	21 - 82
	Mean age	48
Switch	Tot switch	310
Costs	March 2010	March 2012
Total Cost of therapy x 250 patients	207043,00 €	211439,60 €
Mean Cost therapy/month/patient	828,17 €	845,76 €
Total Increase/250 patient/month		+ 4396,61 €
Mean Increase/250 patient/month		+ 17,59 €
Annual Increase /patient		+211,04 €
Cause of switch	Toxicity	147 (41%)
	Viral Falue	125 (35%)
	Semplification	67 (19%)
	Other	20 (5%)
kind of toxicity	Renal	39 (26%)
	Dyslipidemia	25 (17%)
	G.E.	23 (16%)
	SNC	23 (16%)
	Epatic	16 (11%)
	Lipodystrofy	15 (10%)
	Bone	3 (2%)
	Mitochondrial	3 (2%)

77%
23%

250 pt
310 switch

125 pt VL>20 cp/ml

40 pt VL>20 cp/ml + clinical problem

19 pt VL>20 cp/ml + clinical problem

7 pt VL>20 cp/ml + clinical problem
Adherence: ↓ 0 (0%) ↔ 4 (57%) ↑ 3 (43%)   -1219,5 €

12 pt VL>20 cp/ml
Adherence: ↓ 2 (17%) ↔ 4 (33%) ↑ 6 (50%)   -787,1 €

21 pt VL<20 cp/ml + clinical problem

6 pt VL<20 cp/ml + clinical problem
Adherence: ↓ 2 (33) ↔ 4 (66%) ↑ 0 (0%)   +834,9 €

15 pt VL<20 cp/ml
Adherence: ↓ 1 (6%) ↔ 4 (27%) ↑ 10 (67%)   +886,5 €

85 pt VL>20 cp/ml

39 pt VL>20 cp/ml
Adherence: ↓ 8 (21%) ↔ 18 (46%) ↑ 13 (33%)   -556,53 €

46 pt VL<20 cp/ml
Adherence: ↓ 2 (4%) ↔ 21 (46%) ↑ 23 (50%)   +8027,77 €

185 pt VL<20 cp/ml + clinical problem

13 pt VL>20 cp/ml + clinical problem

5 pt VL>20 cp/ml + clinical problem
Adherence: ↓ 0 (0%) ↔ 3 (60%) ↑ 2 (40%)   -1503,6 €

8 pt VL>20 cp/ml
Adherence: ↓ 0 (0%) ↔ 5 (63%) ↑ 3 (37%)   +1835,6 €

172 pt VL<20 cp/ml + clinical problem

13 pt VL<20 cp/ml + clinical problem
Adherence: ↓ 3 (24%) ↔ 5 (38%) ↑ 5 (38%)   -271,12 €

159 pt VL<20 cp/ml
Adherence: ↓ 15 (10%) ↔ 88 (55%) ↑ 56 (35%)   -5489,11 €

Conclusion

In our study switch therapy analysis demonstrated a correct distribution of budget and an improvement of adherence and that is crucial to work in a team with Infection Disease Specialists for the correct management of the therapeutic path.

email author:farmacia.oas@aslto2.it   Tel 011.43.93.750