

Proposal for a diagnostic–therapeutic protocol in the handling of the day surgery patient (based on our experience in 1995)

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1. Introduction

The administrative evolution which has been going on in our country for the last few years has made it necessary to face economic–health problems that had not previously been considered in Italy. The prospect is that health funding will not be replenished as needed, but financed on the basis of new parameters dictated by the Ministry of Health and the regional administration. Therefore, since the end of 1994, we have instituted diagnostic–therapeutic protocols so as to optimize health spending at least for those groups of diseases treatable within a 24-hour period without medico-legal sequelae. This has been made possible as a consequence of the evolution of newer anesthetic and micro-invasive surgical techniques.

2. Materials and methods

We have examined hernia, vein, hemorrhoid, breast and endoscopic surgery, together with other such pathologies, treated in the period from January 1 to December 31, 1995 in the Institute of Clinical Surgery and Surgical Specialities of the University of Siena.

The diagnostic–therapeutic protocol has been applied in 155 cases of lower limb varicose vein ligation and stripping, 139 hernioplasties with prosthesis application, 37 hemorrhoidectomies, 13 minor breast operations (mammary biopsies and quadrantectomies), and 21 colonoscopic polypectomies which required a day hospital treatment regime for control of possible bleeding complications.

The diagnostic protocol has been taken on in a pre-hospitalization regime by first having the patients

undergo a group of hematological examinations, developed in agreement with the anesthetists, chest X-ray, ECG, and an anesthetic visit prior to operation (Table 1).

Once this phase has been completed, which takes about a single morning, the operation date is set within 3–10 days. This variability was a consequence of the availability of the operating tables and of the characteristics of the major operations, since we do not yet have, as we hope to do in the near future, an operating table exclusively for this type of surgery.

Patients were discharged on the same day of operation after an accurate check of their vital parameters, consciousness levels, movement control and sphincter control. All patients were given a medical support number for any problem which might arise until their next hospital visit.

Utilizing disease related groups (DRGs), we calculated the gross income of the treatment of these pathologies, both in a day surgery (DS) regime and in a normal average 8-day hospital regime.

For venous pathology, if we, as in the past years, were to have gone through an ordinary admission, our clinic would have gained £539 555 000, while utilizing the DS method we gained £404 705 000. For hernia surgery, we changed from £368 350 000 to £276 332 000; for hemorrhoid pathology from £104 895 000 to £78 662 000; for breast surgery from £36 400 000 to £27 391 000; for colonic polypectomy from £56 700 000 to £10 626 000.

From our clinic's budget, we have subsequently been able to calculate the average cost of a hospital bed stay per day considering all the specific points for these types of pathologies, averaging £540 000. If we multiply this last number for the days of average stay for our section, which in this last year has come to be 8 days, we obtain the expense of £4 320 000.

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From this last result we can deduce that for lower limb varicose vein stripping, utilizing a normal hospital bed stay we would have lost £130 045 000, while utilizing the DS regime we gained £321 005 000; for hernia pathology we would have lost £232 130 000, while in the DS regimen we have gained £201 272 000; for hemorrhoid pathology in ordinary admittance we would have lost £54 945 000, while in the DS regimen we have gained £58 682 000; for breast pathology in ordinary admittance we would have lost £19 760 000, while in the DS regimen we have gained £20 371 000. Finally, with endoscopic colon polypectomy, paradoxically, both in a DRG regime and in a DS regime we would have lost £34 020 000 and £714 000, respectively. If, for this type

of pathology, we had utilized a short-DRG regimen, this being 2 nights of in-hospital stay, we would have gained £34 860 000.

Table 1
Standard examinations: protocol 1

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- (1) Hematological exams:
Hemogram+ leukocyte count
Azotemia, creatininemia
Electrolytes
Glycemia
Bilirubin
Transaminases
 γ -GT
Alkaline phosphatase
PT, aPTT
Blood group
- (2) Complete urine examinations
(3) Parenchyma chest film
(4) ECG
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Therapeutic protocol A

- (1) Pathologies to operate on:
- Pre-op. Antibiotic prophylaxis 07:00 with a monodosage antibiotic (3rd generation cephalosporine)
- Post-op.
Day 0 Normal saline 500 ml+Vit. K 1 amp.+Vit. C 1 amp.+anti-H₂ 1 amp. (x3)
Diclofenac 1 amp. i.m. if needed (maximum 3 amp./day)
Ca-heparine 0.2 x 2 subcut.
For DS patients, dismissal the same evening
- Day 1 Normal saline 500 ml+Vit. K 1 amp.+Vit. K 1 amp.+anti-H₂ 1 amp. (x2)
Monodosage antibiotic
Ca-heparine 0.2 x 2 subcut.
Diclofenac 1 amp. i.m. if needed
1st Diet
- Day 2 Monodosage antibiotic
Ca-heparine 0.2 x 2 subcut.
Diclofenac 1 amp. i.m. if needed
2nd Diet
Patient can start to walk
Dismissal for short-DRG patients
- (2) Pathologies not to operate on:
As with protocol sub-1, excluding i.v. therapy
Free diet
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Economic balance of final costs up to Dec. 31st, 1995

Reagent materials	2 400 000
Photo materials and diagnostic papers	3 400 000
Pharmaceutical and dialysis materials	245 600 000
Medicines	556 000 000
Pharmaceuticals bought directly	3 000 000
Economal products (pens, paper, staples etc)	38 400 000
Sanitary economical products	41 600 000
Maintenance	67 000 000
Telephone	30 800 000
Heating	141 600 000
Electricity	65 000 000
Town gas and water	38 200 000
Cleaning costs	32 800 000
Goods with absorbable costs	18 000 000
Diagnostics	1 053 800 000
Operating rooms	2 186 600 000
Alimentaries	395 000 000
Laundry	142 600 000
Sterilization	56 400 000
Sanitary physics	4 200 000
ER	260 400 000
Radiology	513 600 000
Dependant personnel	2 232 400 000
University-appointed personnel	478 200 000
Administrative services	465 000 000
Sanitary services	124 200 000
Various expenses	177 200 000
Total	9 373 400 000
Daily expenses/pat.	540 000

3. Conclusions

With the new health financial regulations we have found the need to coordinate our productivity with the new DRGs. Thus, we regularized our clinic's internal organization, so as to standardize our work and to reduce to a minimum time losses and improper admittances, and reconcile the least possible hospital stay time with the same safety standards. From our analysis, the optimal hospital stay is a DS regime which allows for a 75% DRG tariff reduction pay from the regional administration. This result being quite advantageous for diseases such as inguinal hernia, varicoceles, lower limb varicose veins, hemorrhoids and benign breast pathologies for their low post-operative risk and a high

DRG in the DS regime. However, for endoscopic polypectomies, the best treatment is a short-term DRG (2-night hospital stay). The net gain of £600 606 000 will be utilized to try to balance the net negative DRG of other hospital stays.

It is important to highlight that this proposal is preliminary, because from January 1996 we are studying the possibility to apply diagnostic–therapeutic protocols to other pathology groups to treat both in a DS regime and in a short DRG regime. The latter means an ordinary admittance that allows a patient to remain in the hospital for at least 2 nights and whose cost is thus limited to £1 080 000.

Due to the rapid evolution of computerized systems and the importance of a better rationale in diagnostic–therapeutic stays, over the last 3 months we have been conducting a test run on the computerization of our clinic for its clinical–administrative–educational handling, utilizing the same protocols stated above. A computerized clinical journal is already under way and all administrative data that we have or will possess in the near future will be computerized.

We also hope that the Tuscany Regional Administration will undergo a critical review of the DRG table based on the data we collected in our clinic for the region itself in the month of May last.