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Multiclip project

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Coding of the contraindications of drugs found in CBIP database

Abstract
The contraindications of drugs found in CBIP database[1] have been carefully identified and coded to clinical classifications ICPC-2 and ICD-10 including SNOMED-CT. This vocabulary will be part of the Belgian controlled medical vocabulary (CMV)

Aim
The contra-indications of drugs as quoted in the CBIP database have been identified by careful reading of the texts and coded.
The work has had several phases
1/ Identification of the main concept (in French) connected to a contra-indication
2/ Coding in ICPC-2 if suitable
3/ Coding in ICD-10
4/ Coding in SNOMED-CT
The first 3 phases have been done in 2010 [2]

Methods
The correspondences between ICPC-2 and ICD-10 has been reached through the tool developed by P. Zanstra for the process of updating ICD10 mappings in ICPC-2[3]. We describe here the fourth one; the coding of the list of previous ICPC coded items to SNOMED-CT. In the text SNOMED or SNOMED-CT refers to SNOMED-CT International edition 2011 as downloaded in the Cliniclue sowtware[4]. In case of doubt for the search of the corresponding term in English, the CISMEF terminological service (Portail Terminologique de Santé) has been used[5].

Results
567 contra-indications have been identified of which one had been able to code 505 to ICPC-2. Those 505 entries have been reviewed and double eliminated. The remaining entries have been coded to SNOMED-CT using Cliniclue software, after download of the SNOMED-CT International edition (2011-07-31).
There are 120 remaining unique entries. The transposition from a classification (ICPC-2) to a terminology (SNOMED-CT) is subject to several problems. The classification rubric is generally broader than the proposed term or at least contains two of them. Such a perfect correspondence as this following one is pretty uncommon.

1 CBIP : www.cbip.be
2 Marc Jamoulle, Robert Vander Stichele, Luc Proost. Etude des termes de contre-indication pharmacologique de la base du CBIP (www.cbip.be) Feb. 2010
3 Browser - 2-ICD10-ICPC linked http://icpc.who-fic.nl/browser.aspx
4 Cliniclue software http://www.cliniclue.com/software
5 Portail terminologique de santé http://pts.chu-rouen.fr/

CI_CBIP_label_fr	ICPC-2_code	ICPC-2_title	ICD-10_code	S-CT_code1	S-CT_term1
Insuffisance Cardiaque	K77	HEART FAILURE	i50	84114007	heart failure

The usual finding is more often as this one in which the ICPC rubric is very broad ;

CI_CBIP_label_fr	ICPC-2_code	ICPC-2_title	ICD-10_code	S-CT_code1	S-CT_term1	
Malabsorption des Sels biliaires	D99	DISEASE DIGESTIVE SYSTEM OTHER	k90	44332000	bile acid Malabsorption	syndrome

Some remarks

1. The same term could appear two times in SNOMED under different codes either **type=body_structure** either **type=clinical finding** . In this case the **type=clinical finding** is chosen.

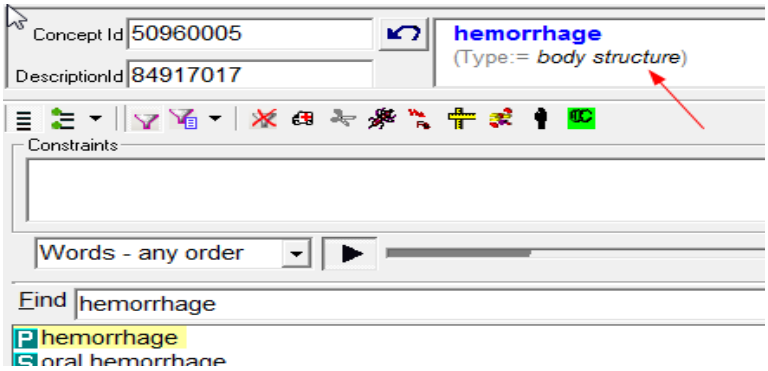
2. Attributes like, severe, grave, chronic, acute are not always found in SNOMED but "bilateral renal artery stenose" exists while "stenose sur rein unique"(stenose of kidney alone) is not found. The most similar for this last one would be "congenital renal artery stenosis".

3. The coding process is not so easy. In the following example Oestroprogestogen are contraindicated in Uterus hemorrhage of unknown origin. But it is not the hemorrhage which is the main problem. It is the fact that the problem is of unknown origin which is not possible to code.

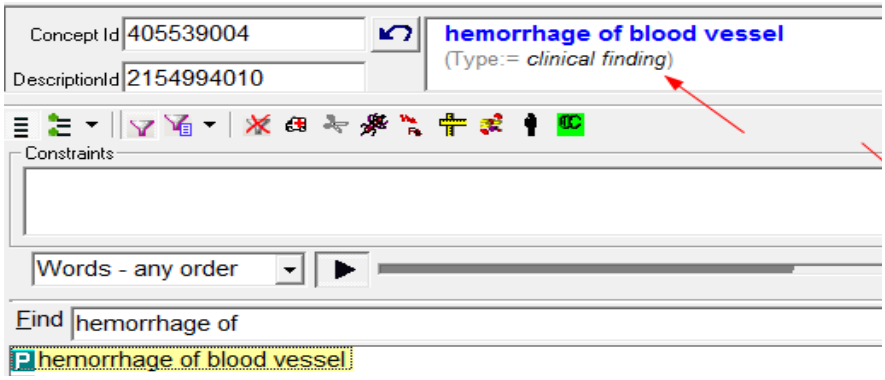
Estroprogestatifs	**Hémorragie utérine d'origine inconnue**	X06	n92.6	MENSTRUATION EXCESSIVE	**38280009**	**hemorrhage in uterus**

4. The differentiation between ICPC code K86 and K87 is not possible in SNOMED for the same reasons. The attribute complicated or not complicated is not in use in SNOMED-CT as such

5. The differentiation of some concepts is not so easy in SNOMED-CT. The translation of the



French term "hémorragie" by the English one "hemorrhage" is quoted under the body structure while the addition of the particle "of" with the term "Blood vessel" which in French is redundant for "hémorrhagie" is quoted under clinical finding. This one will be chosen in our work as clinical findings are our aim.



6. The terms used in CBIP are often very specific or denoting rare diseases. Thus the corresponding ICPC rubric is very large like here T99. In this case the exact match with SNOMED has been looked for as in this Galactosemia

Galactosémie	T99	e74.2	ENDOCRINE/METABOLIC/ NUTRITIONAL DISEASE OTHER	190745006	galactosemia

7. The terms used in CBIP are often very broad , just like "Affections coronariennes" (Coronary diseases) in which use of several drugs are contraindicated. This forces to open the CBIP term with the corresponding ICPC rubrics. Next step is to find the correspondence in Cliniclue as shown in the following table. ICPC corresponds to several ICD10 and Snomed codes. We choose to present only two for K75 here.

K74	i20, i24.0, i24.8, i24.9	ISCHAEMIC HEART DISEASE WITH A	53741008	Coronary heart disease		
K75	i21, i22, i23, i24.1	ACUTE MYOCARDIAL INFARCTION	63739005	coronary artery occlusion	57054005	acute myocardial infarction
K76	i25	ISCHAEMIC HEART DISEASE WITHOU	53741008	Coronary heart disease		

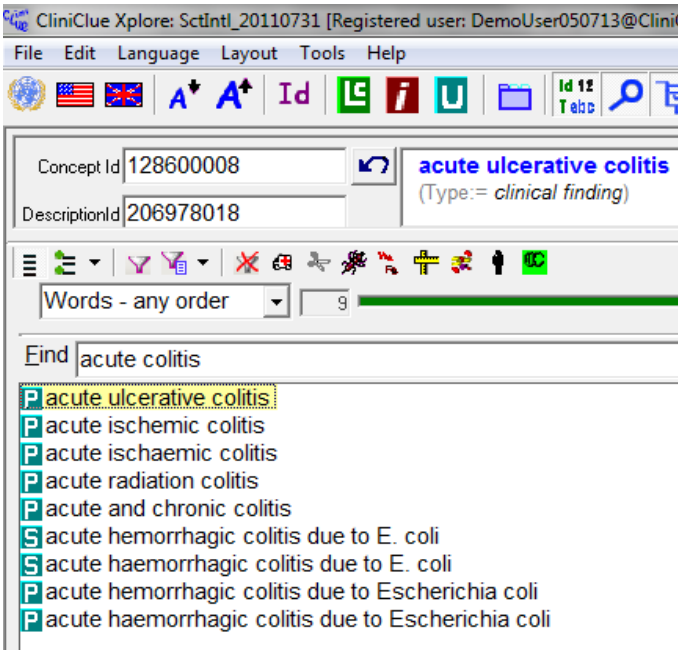
8. Other example of broad term in CBIP is the following

Troubles du rythme cardiaque	K78	i48	ATRIAL FIBRILLATION/FLUTTER	49436004	atrial fibrillation	5370000	atrial flutter

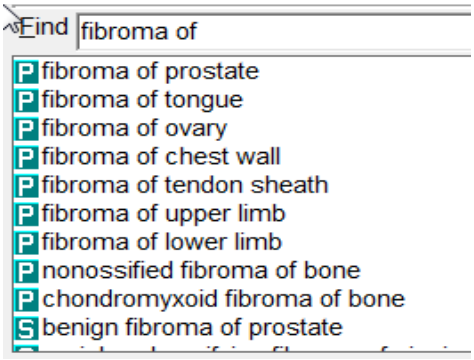
"Trouble du rythme cardiaque" is open to ICPC K78, K79, K80 and K84. But the K78 contains two items, Atrial fibrillation and flutter. This implies two codes in SNOMED

9. Transposition to SNOMED-CT could also be difficult. Here the example of "Colite aigue" which, translated in English, is "acute colitis". This can not be found in Cliniclue as stated in the fig below.

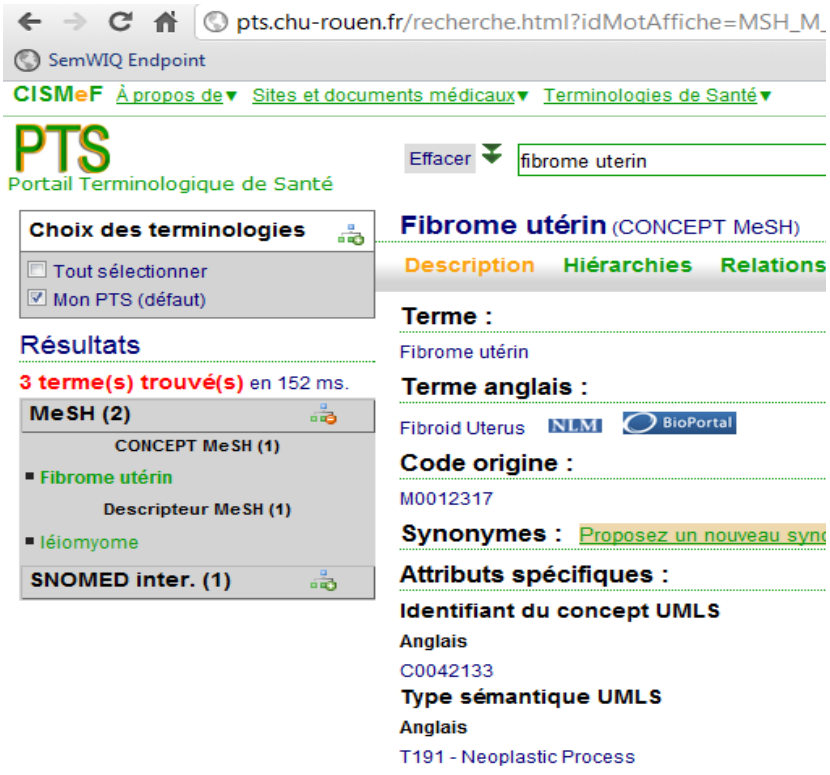
One can found opening of various "acute colitis" as well as the entry "acute and chronic colitis" but the item "acute colitis" as such seem to be absent.



10. The term "Fibrome de l'uterus" is also interesting to consider. In Cliniclue, the term "fibroma" opens a lot of possibilities but nothing referring to Uterus. Typing "fibroma of" like in the following figure is also useless to find uterus



Passing though the CISMEF interface with the French term "Fibrome uterin" gives the solution. The proposed translation is "fibroid uterus", which is recognized as such by Cliniclue under the SNOMED code 95315005. One can imagine that North-American doctors are never using Fibroma of uterus but are used to say Fibroid uterus.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SemWIQ Endpoint
CISMeF À propos de▾ Sites et documents médicaux▾ Terminologies de Santé▾
PTS
Portail Terminologique de Santé
Effacer
fibrome uterin
Choix des terminologies
Tout sélectionner
Mon PTS (défaut)
Résultats
3 terme(s) trouvé(s) en 152 ms.
MeSH (2)
CONCEPT MeSH (1)
Fibrome utérin
Descripteur MeSH (1)
léiomyome
SNOMED inter. (1)
Fibrome utérin (CONCEPT MeSH)
Description Hiérarchies Relations
Terme :
Fibrome utérin
Terme anglais :
Fibroid Uterus NLM BioPortal
Code origine :
M0012317
Synonymes : Proposez un nouveau syn
Attributs spécifiques :
Identifiant du concept UMLS
Anglais
C0042133
Type sémantique UMLS
Anglais
T191 - Neoplastic Process